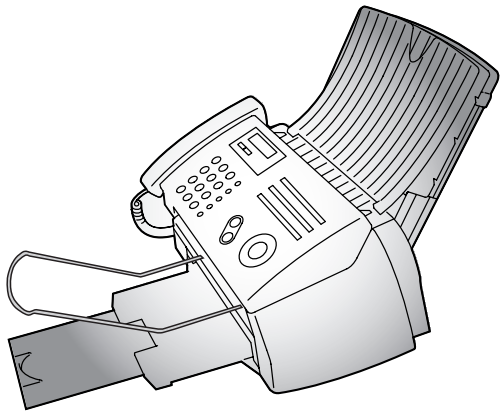
SHARP SERVICE MANUAL

No. 00ZUA1000USME



FACSIMILE

MODEL UX-A1000

MODEL	SELECTION CODE	DESTINATION
UX-A1000	U	U.S.A.

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Refer to the Service Manual of UX-B700U

PARTS GUIDE

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's
instructions.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type recommandé par le constructeur.
Mettre au rébut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfare vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

CHAPTER 1. GENERAL DESCRIPTION

[1] Specifications

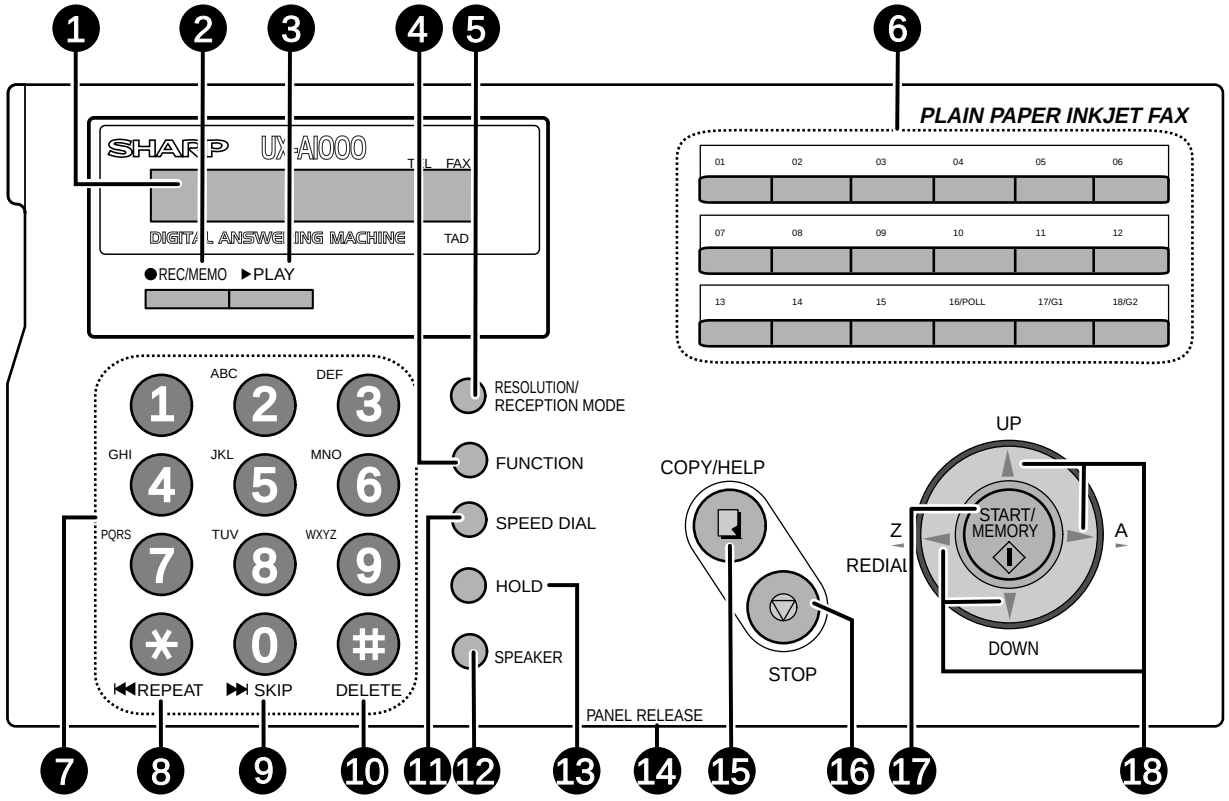
Automatic dialing	**Rapid Key Dialing:** 18 numbers **Speed Dialing:** 81 numbers
Print cartridge yield* (at 4% coverage)**	Initial cartridge Ink save mode ON:Approx. 300 letter pages Ink save mode OFF:Approx. 200 letter pages Replacement cartridge: SHARP **UX-C70B** Ink save mode ON:Approx. 600 letter pages Ink save mode OFF:Approx. 400 letter pages
Memory size**	1.8 MB (approx. 100 average pages;20 minutes of voice messages (including OGMS))
Modem speed	14,400 bps with auto fallback to lower speeds.
Transmission time**	Approx. 6 seconds (only when ECM is on)
Scanning Resolution	**Horizontal:** 203 lines/inch (8 lines/mm) **Vertical:** Standard: 98 lines/inch (3.85 lines/mm) Fine /Halftone: 196 lines/inch (7.7 lines/mm) Super fine: 391 lines/inch (15.4 lines/mm)
Print resolution	600 x 600 dpi
Automatic document feeder	Letter/A4: 20 pages max. (20-lb. paper) Legal: 5 pages max.
Recording system	Thermal inkjet
Halftone (grayscale)	64 levels
Paper tray capacity	Letter: Approx. 200 sheets (20-lb. copier paper at room temperature; maximum stack height should not be higher than the line on the tray) Legal: 100 sheets Recommended paper weight: 20-lb. Copy Bond
Compression scheme	MR, MH, MMR
Compatibility	ITU-T (CCITT) G3 mode
Input document size	**Automatic feeding:** Width: 5.8 to 8.5" (148 to 216 mm) Length (20 pages): 5.5 to 11" (140 to 279 mm) Length (5 pages): 5.5 to 14" (140 to 356 mm) **Manual feeding:** Width: 5.8 to 8.5" (148 to 216 mm) Length: 5.5 to 23.6" (140 to 600 mm)
Effective scanning width	8.3" (210 mm) max.
Effective printing width	8.0" (203 mm) max.
Contrast control	Automatic/Dark selectable
Reception modes	TEL/FAX/TAD
Copy function	Single/Multi/Sort (99 copies/page)
Telephone function	Yes (cannot be used if power fails)
Applicable telephone line	Public switched telephone network
Display	16-digit LCD display
Power requirements	120 V AC, 60 Hz
Operating temperature	60 - 90°F (15 - 32°C)
Humidity	25 - 80% RH
Power consumption	Standby: 5.0 W Maximum: 30 W
Dimensions (without attachments)	Width: 14.6" (372 mm) Depth: 10.2" (259 mm) Height: 8.0" (203 mm)
Weight (without attachments)	Approx. 11 lbs. (5.0 kg)

* Ink Save mode is initially turned off.

** Based on Sharp Standard No. 1 Chart at standard resolution, excluding time for protocol signals (i.e., ITU-T phase C time only).

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviation from these values in individual units.

[2] Operation panel



1 **Display**
This displays messages and prompts to help you operate the machine.

2 **REC/MEMO key**
Press this key to record an outgoing message, phone conversation, or memo.

3 **PLAY key**
Press this key to play recorded messages.

4 **FUNCTION key**
Press this key followed by the arrow keys to select special functions and settings.

5 **RESOLUTION / RECEPTION MODE key**
When a document is in the feeder, press this key to adjust the resolution for faxing or copying. At any other time, press this key to select the reception mode (an arrow in the display will point to the currently selected reception mode).

6 **Rapid Dial Keys**
Press one of these keys to dial a fax number automatically

7 **Number keys**
Use these keys to dial numbers, and enter numbers and letters when storing auto-dial numbers.

8 **REPEAT key**
Press this key while listening to a message to play it again.

9 **SKIP key**
Press this key while listening to a message to skip to the next message.

10 **DELETE key**
Press this key to erase recorded messages.

11 **SPEED DIAL key**
Press this key to dial a fax or voice number using an abbreviated 2-digit Speed Dial number.

12 **SPEAKER key**
Press this key to listen to the line and fax tones through the speaker when faxing a document.
Note: **This is not a speakerphone.** You must pick up the handset to talk with the other party.

13 **HOLD key**
Press this key to put the other party on hold during a phone conversation.

14 **PANEL RELEASE**
Grasp here and pull up to open the operation panel.

15 **COPY/HELP key**
When a document is in the feeder, press this key to make a copy of a document. At any other time, press this key to print out the Help List, a quick reference guide to the operation of your fax machine.

16 **STOP key**
Press this key to cancel an operation before it is completed.

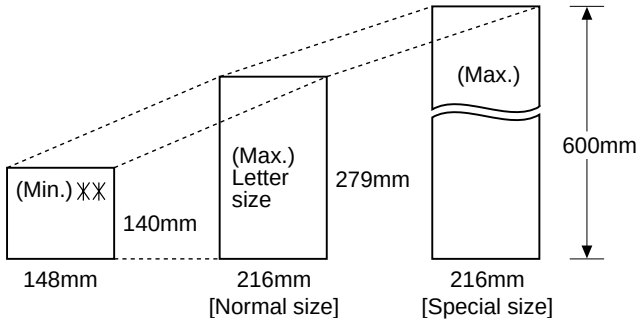
17 **START/MEMORY key**
Press this key after dialing to begin fax transmission. Press this key before dialing to send a fax through memory. The key can also be pressed in the date and time display to show the percentage of memory currently used.

18 **Arrow keys**
Use these keys to scroll through and select settings, and to search for auto-dial numbers.

[3] Transmittable documents

1. Document Sizes

Normal size	width	5.8" - 8.5" (148 – 216 mm)
	length	5.5" - 11" (140 – 279 mm)



※※ Use document carrier sheet for smaller documents.

* With special sizes, only one sheet can be fed into the machine at a time. Insert next page into feeder as current page is being scanned.

2. Paper Thickness & Weight

	20 sheets	1sheet(Manual)
Paper weight	70 kg 21.5 lbs. (80 g/m^2)	70 kg ~ 135 kg 14 lbs. ~ 42 lbs. (52 g/m^2 ~ 157g/m^2)
Paper thickness (ref.)	0.1 mm	0.1 mm ~ 0.18mm
Paper size	LGL (216 mm x 355.6 mm) A4 (210 mm x 297 mm) LTR (216 mm x 279 mm)	
Feeder capacity	A4/LTR: 20 sheets LGL : 5 sheet	

3. Document Types

- Normal paper

  Documents handwritten in pencil (No. 2 lead or softer), fountain pen, ball-point pen, or felt-tipped pen can be transmitted.

  Documents of normal contrast duplicated by a copying machine can also be transmitted.
- Diazo copy (blue print)

  Diazo copy documents of a normal contrast may be transmitted.
- Carbon copy

  A carbon copy may be transmitted if its contrast is normal.

4. Cautions on Transmitting Documents

- Documents written in yellow, greenish yellow, or light blue ink cannot be transmitted.
- Ink, glue, and correcting fluid on documents must be dry before the documents can be transmitted.
- All clips, staples and pins must be removed from documents before transmission.
- Patched (taped) documents should be copied first on a copier and then the copies used for transmission.
- All documents should be fanned before insertion into the feeder to prevent possible double feeds.

5. Automatic Document Feeder Capacity

Number of pages that can be placed into the feeder at anytime is as follows:

Normal size: max. ADF 20 pages

Special size: Single sheet only (manual feeding)

NOTES:
- When you need to send or copy more pages than the feeder limit, place additional pages in feeder when last page in feeder is being scanned.
- Place additional pages carefully and gently in feeder. If force is used, double-feeding or a document jam may result.

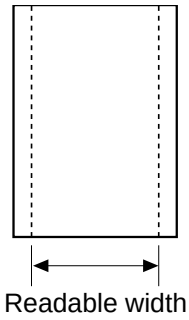
6. Readable Width & Length

The readable width and length of a document are slightly smaller than the actual document size.

Note that characters or graphics outside the effective document scanning range will not be read.

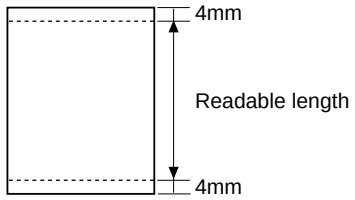
- **Readable width**

8.3" (210mm), max.



- **Readable length**

This is the length of the document sent minus 0.16" (4mm) from the top and bottom edges.



[4] Installation

1. Site selection

Take the following points into consideration when selecting a site for this model.

ENVIRONMENT

- The machine must be installed on a level surface.
- Keep the machine away from air conditioners, heaters, direct sunlight, and dust.
- Provide easy access to the front, back, and sides of the machine. In particular, keep the area in front of the machine clear, or the original document may jam as it comes out after scanning.
- The temperature should be between 41 - 95°F(5 - 35°C).
- The humidity should be between 25% and 85% (without condensation).

ELECTRICITY

AC 120V, 60Hz, grounded(3-prong) AC outlet is required.

Caution!

- Connection to a power source other than that specified will cause damage to the equipment and is not covered under the warranty.
- If your area experiences a high incidence of lightning or power surges, we recommend that you install a surge protector for the power and telephone lines. Surge protectors can be purchased at most telephone speciality stores.

If the machine is moved from a cold to a warm place...

Condensation may form on the reading glass if machine is moved from a cold to a warm place, this will prevent proper scanning of documents for transmission. Turn on the power and wait approximately 2 hours before using machine.

TELEPHONE JACK

A standard RJ11C single-line wall telephone jack must be located near the machine. This is the telephone jack commonly used in most homes and offices.

- Plugging the fax machine into a jack which is not RJ11C single-line wall telephone jack may result in damage to the machine or your telephone system. If you do not know what kind of jack you have, or need to have one installed, contact the telephone company.

2. Assembly and connections

① Connect the handset as shown and place it on the handset rest.

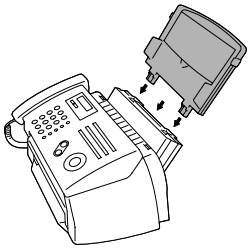
The ends of the handset cord are identical, so they will go into either jack.

Make sure the handset cord goes into the jack marked with a handset symbol on the side of the machine!

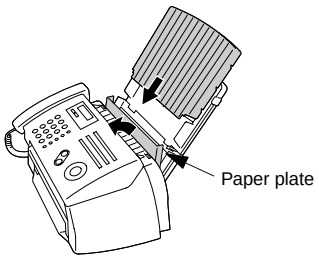
Use the handset to make ordinary phone calls, or to transmit and receive faxes manually.

② Attach the paper trays.

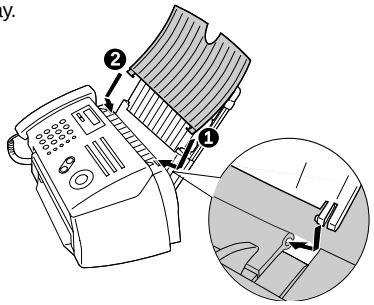
Attach the paper tray.



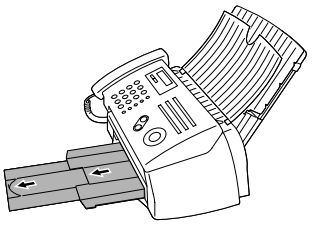
Pull the paper plate toward you and attach the paper tray cover.



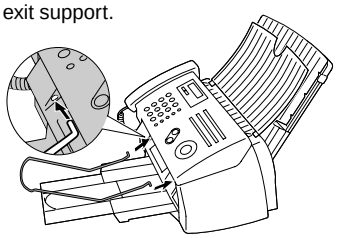
Attach the document tray.



Pull out the received document tray.



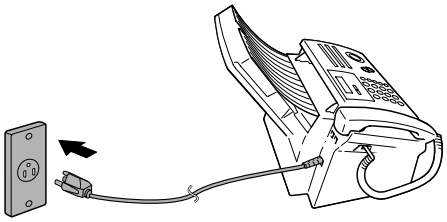
Attach the document exit support.



③ Plug the power cord into a 120 V, 60 Hz, grounded AC (3-prong) outlet.

Caution!

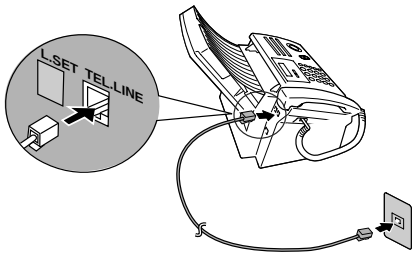
- Do not plug the power cord into any other kind of outlet. This will damage the machine and is not covered under the warranty.
- **Make sure you have removed all of the packing tape before plugging in the power cord.** Plugging in the power cord without doing so may damage the machine.
- The machine does not have a power on/off switch, so the power is turned on and off by simply plugging in or unplugging the power cord.



"CHECK CARTRIDGE" normally appears in the display the first time you plug in the machine. This message appears until you install the print cartridge.

Note: If your area experiences a high incidence of lightning or power surges, we recommend that you install surge protectors for the power and telephonelines. Surge protectors can be purchased at most telephone specialty stores.

④ Insert one end of the line cord into the jack on the back of the machine marked **TEL. LINE**. Insert the other end into a standard (RJ11C) single-line wall telephone jack.



Setting the dial mode

The fax machine is set for tone dialing. If you are on a pulse dial line, you must set the fax machine for pulse dialing. Press the panel keys as follows:

1	**Press FUNCTION once and 3 times.**	Display: OPTION SETTING
2	**Press once and 4 times.**	DIAL MODE
3	**Press once.**	1=TONE, 2=PULSE
4	**Select the dial mode:** **TONE: 1 PULSE: 2**	The display briefly shows your selection, then: DISTINCTIVE
5	**Press STOP to exit.**	

3. Installing the Print Cartridge

- When replacing the print cartridge, be sure to use a **SHARP UX-C70B** cartridge.

Print cartridge yield (at 4% coverage)

Initial cartridge
Ink save mode ON:Approx. 300 letter pages
Ink save mode OFF:Approx. 200 letter pages

Replacement cartridge (SHARP UX-C70B)
Ink save mode ON:Approx. 600 letter pages
Ink save mode OFF:Approx. 400 letter pages

Ink Save mode is initially turned off.

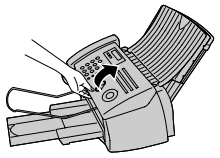
Caution!

Do not open the print compartment cover of the machine while it is printing. If opened while printing, printing will stop.

Note: Keep ink cartridges sealed in their packages until you are ready to install them. It is recommended that you do not use a cartridge that has been left unused for a long time after opening, as the print quality may be considerably degraded.

- Make sure the power cord of the machine is plugged in and paper is loaded before installing or replacing the print cartridge.

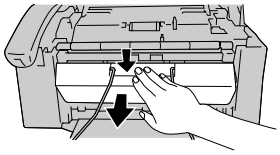
1 Open the operation panel.



If PRINTER ERROR or PRINTER ERROR/CHECK PAPER appears...
In the event that the display shows either of the above messages, you must clear the error before installing the print cartridge. The error can usually be cleared by opening and closing the print compartment cover (see Step 2), or if a paper jam has occurred, by removing the paper jam.

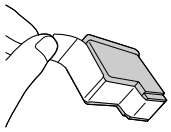
2 Open the print compartment cover.

- Press as shown and pull the cover toward you.

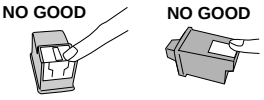


3 Remove only the tape from the the new cartridge.

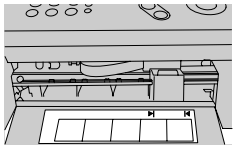
- **Important:** Make sure you remove all of the tape.



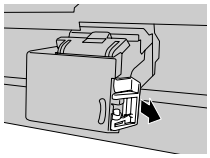
- **CAUTION! DO NOT** touch the gold contact area of the cartridge.



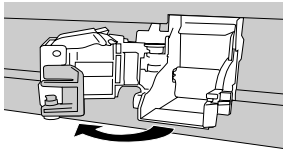
4 Make sure the cartridge holder is between the "CARTRIDGE EXCHANGE AREA" arrows on the label, and then pull the green lever and open the cartridge holder cover.



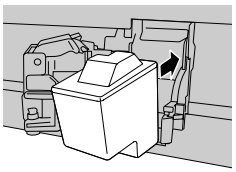
- If you are replacing the cartridge, remove the old cartridge. If you are going to use the old cartridge again, place it in an air-tight container.
- **CAUTION! DO NOT** touch the contact area inside the carriage carrier.



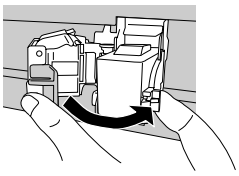
Note: If the print compartment cover is left open for approximately 30 minutes with a cartridge installed, the cartridge will automatically return to its home position. To make the cartridge return to the CARTRIDGE EXCHANGE AREA when this has happened, close the cover and then open it again.



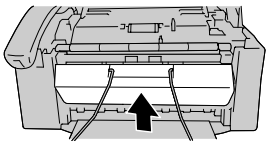
5 **Insert the new print cartridge into the cartridge holder.**



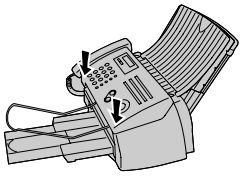
6 **Place your index finger on the tab as shown and close the cartridge holder cover with your thumb. Make sure the cover clicks into place.**



7 **Close the print compartment cover.**



8 **Close the operation panel, pressing down firmly on both front corners to make sure it clicks into place.**



Display:

CHANGE CARTRIDGE
1=NEW, 2=OLD

9 **Press (1) (NEW) if the cartridge you installed is new.**

Press (2) (OLD) if the cartridge you installed is old.

If you select the wrong number by mistake, press STOP and repeat the selection.

Display when "1" is selected:

NEW CART.: OK?
OK: PRESS START

10 **Press START/MEMORY.**

If you selected "OLD" in the previous step, this completes the installation procedure. (Note: If you find that print quality is not satisfactory after reinstalling the old cartridge, align the cartridge.)

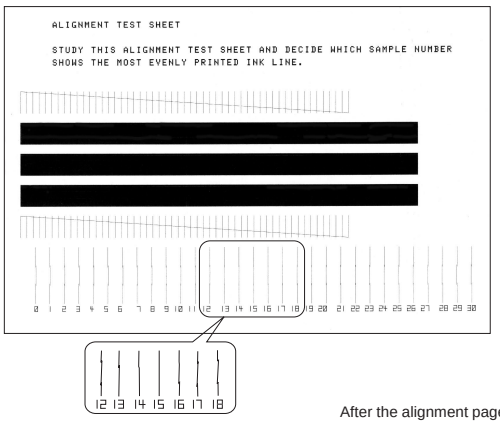
If you selected "NEW", the display will show the alternating messages at right. Continue with the following steps to align the print cartridge.

Display when "NEW" is selected:

ALIGN CARTRIDGE
1=PRINT,2=SET

11 **Press (1) to print an alignment page. (To enter an alignment value without printing an alignment page, press (2).)**

12 **In the alignment page that the machine prints, locate the line that comes closest to forming a completely straight line.**


ALIGNMENT TEST SHEET
STUDY THIS ALIGNMENT TEST SHEET AND DECIDE WHICH SAMPLE NUMBER SHOWS THE MOST EVENLY PRINTED INK LINE.
12 13 14 15 16 17 18

In this example, "15" comes closest to forming a straight line.

After the alignment page is printed, the display shows:

ENTER (0-30) 15

13 **Press the number keys to enter the number of the straightest line.**

Example: (1) (5)

- If you make a mistake, press STOP and then repeat the entry.

14 **Press START/MEMORY.**

Note: If at any time the display shows the alternating messages at right, check the printing paper. If the tray is empty, add paper. If there is paper in the tray, take it out and then reinsert it.

When you are finished, press START/MEMORY.

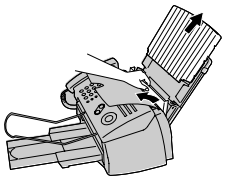
ADD PAPER &
PRESS START KEY

4. Loading printing paper

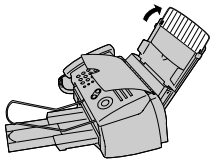
You can load letter or legal size paper in the paper tray. Recommended paper weight is 20-lb. Copy Bond. The maximum number of sheets is as follows:

Letter size: Approx. 200 sheets (20-lb. copier paper at room temperature; maximum stack height should not exceed line on tray)
Legal size: Approx. 100 sheets (20-lb. copier paper at room temperature)

1 **Pull the paper plate toward you, and remove the paper tray cover from the paper tray.**

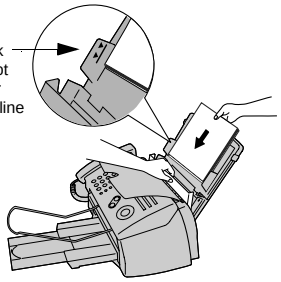


2 **If you are going to load legal paper, flip up the paper tray extension.**



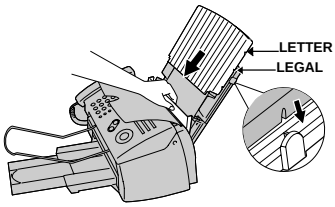
3 **Pull the paper plate toward you and insert the stack of paper into the tray, *PRINT SIDE UP*.**

- If paper remains in the tray, take it out and combine it into a single stack with the new paper.



Be sure to load the paper so that printing takes place on the **print** side of the paper. Printing on the reverse side may result in poor print quality.

4 **Pull the paper plate toward you and replace the paper tray cover.**



Place the cover using the appropriate notch for the size of paper loaded

① Setting the paper size

The fax has been set at the factory to scale received faxes to letter size paper. If you loaded legal paper, you must change the paper size setting to LEGAL.

1 **Press FUNCTION once and 1 twice.** Display: PRINT SET-UP

2 **Press once and 7 once.** PAPER SIZE SET

3 **Press once.** 1=LETTER,2=LEGAL

4 **Select the paper size:** The display briefly shows your selection, then:
LETTER: 1 **LEGAL: 2** COPY CUT-OFF

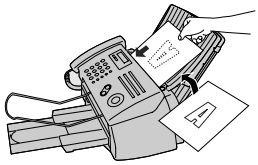
5 **Press STOP to return to the date and time display.**

② Contrast settings

AUTO	Use AUTO for normal documents.
DARK	Use DARK for faint documents.

1 **Load the document(s).**

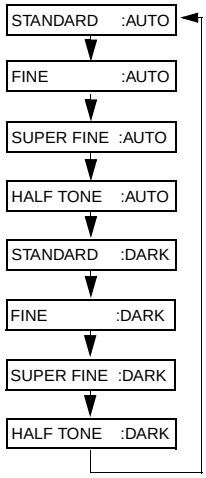
- The document must be loaded before the resolution and contrast can be adjusted.



2 **Press RESOLUTION/ RECEPTION MODE one or more times until the desired resolution and contrast settings appear in the display.**

- The first time you move through the list of resolution settings, the contrast setting AUTO will appear next to each resolution setting. The second time you move through the list, the contrast setting DARK will appear.

Display:



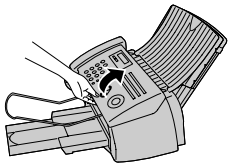
Note: In order to transmit in SUPER FINE resolution, the receiving fax machine must also have that resolution. If it doesn't, your machine will automatically step down to the next best available setting.

5. Clearing a jammed document

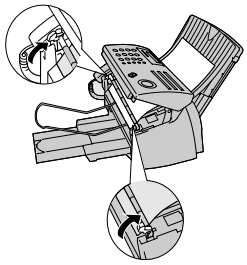
If the original document doesn't feed properly during transmission or copying, or DOCUMENT JAMMED appears in the display, first try pressing START/MEMORY. If the document doesn't feed out, remove it as explained below.

Important:
Do not try to remove a jammed document without releasing it as explained below. This may damage the feeder mechanism.

1 **Slowly open the operation panel until it is half open.**

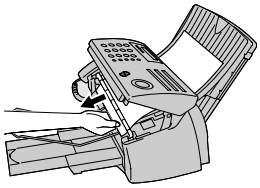


2 **Flip up the green levers on each side of the white roller.**

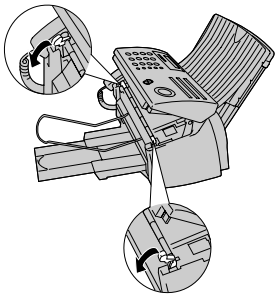


3 **Gently remove the document.**

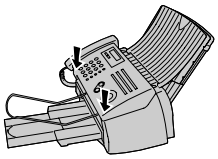
- Be careful not to tear the document.



4 **Flip down the green levers on each side of the white roller.**

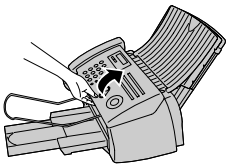


5 **Close the operation panel, pressing down on both sides to make sure it clicks into place.**



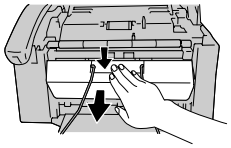
6. Clearing jammed printing paper

1 **Open the operation panel.**

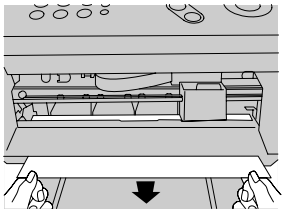


2 **Open the print compartment cover.**

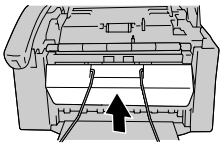
- Press as shown and pull the cover toward you.



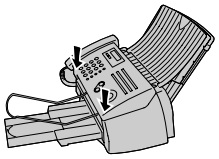
3 **Gently pull the jammed paper out of the machine, making sure no torn pieces of paper remain in the print compartment or rollers.**



4 **Close the print compartment cover.**



5 **Close the operation panel, pressing down firmly on both front corners to make sure it clicks into place.**

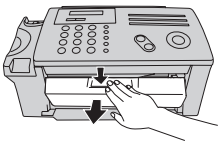


[5] Quick setup guide

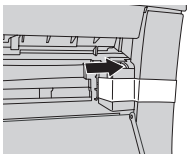
Note: To enter your name and fax number and set the data and time so that they appear at the top of each fax you send, see pages 26-29 of your operation manual.

1

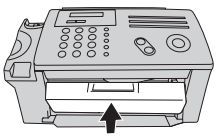
1. Press as shown and pull to open the print compartment cover.



2. Remove the packing tape.

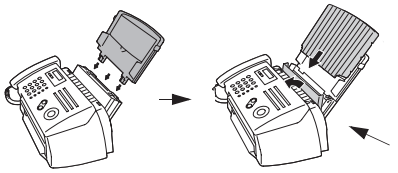


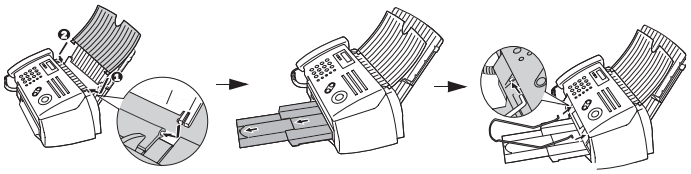
3. Close the print compartment cover.



2

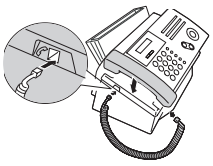
Attach the trays.



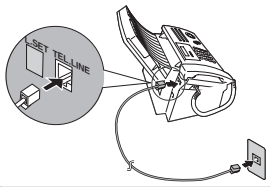


3

1. Connect the handset.

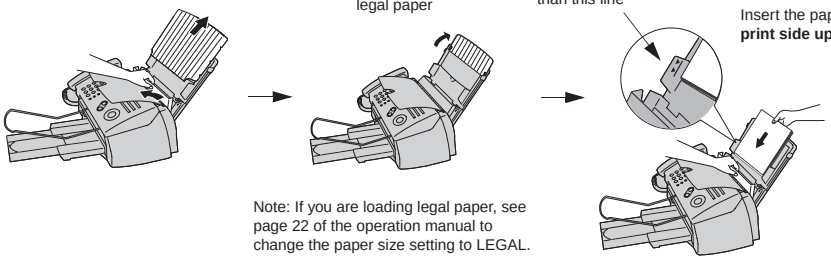


2. Connect the phone line cord to the **TEL. LINE** jack and a wall jack.



4

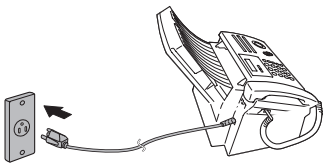
Load paper.



Note: If you are loading legal paper, see page 22 of the operation manual to change the paper size setting to LEGAL.

5

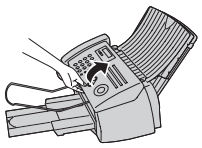
Plug the power cord into a 120-V grounded outlet.



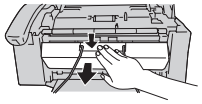
6

Install the Print Cartridge.

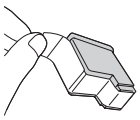
1. Open the operation panel.



2. Press as shown and pull to open the print compartment cover.



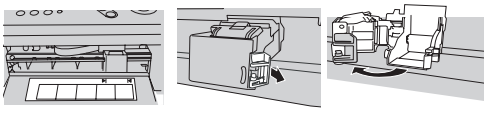
3. Remove only the tape from the new cartridge.
IMPORTANT: Make sure you remove all of the tape.



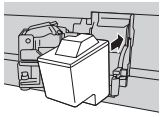
Caution! Do not touch the gold contact area.

NO GOOD

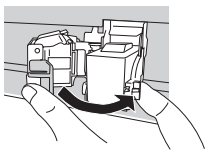
4. Make sure the cartridge holder is between the "CARTRIDGE EXCHANGE AREA" arrows on the label, and then pull the green lever and open the cartridge holder cover.



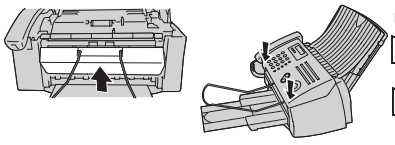
5. Insert the new print cartridge into the cartridge holder.



6. Place your index finger on the tab and close the cartridge holder cover with your thumb.



7. Close the print compartment cover and then the operation panel.



Display:

CHANGE CARTRIDGE

1=NEW, 2=OLD

8. a. Press (1) to select NEW.

b. Press START/MEMORY →

ALIGN CARTRIDGE

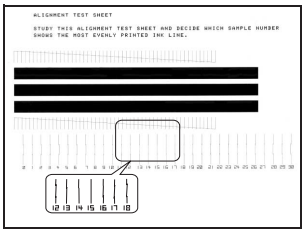
1=PRINT,2=SET

c. Press (1) to print an alignment page.

9. In the alignment page that the machine prints, locate the line that comes closest to forming a completely straight line. Enter the number of that line.

Example: (1) (5)

(If you make a mistake, press STOP and then repeat the entry.)

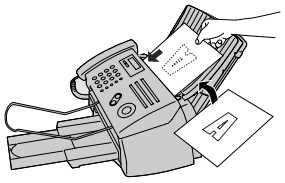

ALIGNMENT TEST SHEET
STUDY THIS ALIGNMENT TEST SHEET AND DECIDE WHICH SAMPLE NUMBER SHOWS THE MOST EVENLY PRINTED INK LINE.

10. Press START/MEMORY and then STOP to exit.

[6] Quick reference guide

Sending Faxes

Place your document (up to 20 pages) face down in the document feeder.



Normal Dialing

1. Lift the handset or press SPEAKER.
2. Dial the fax number.
3. Wait for the reception tone (if a person answers, ask them to press their Start key).
4. Press START/MEMORY.

Rapid Key Dialing

Press the appropriate Rapid Key. Transmission will begin automatically.

Speed Dialing

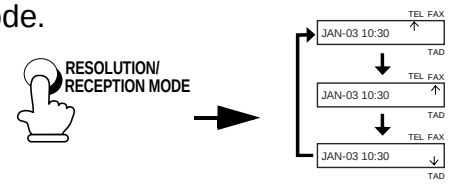
1. Press SPEED DIAL.
2. Enter the 2-digit Speed Dial number.
3. Press START/MEMORY.

Recording an OGM

1. Press ●REC/MEMO, , and .
2. Lift the handset, press START/MEMORY, and speak into the handset.
3. When finished, press STOP.

Receiving Faxes

Press RESOLUTION/RECEPTION MODE until the arrow in the display points to the desired reception mode.



FAX mode: The fax machine automatically answers and receives faxes.

TEL mode: Answer all calls (even faxes) by picking up the handset. To begin fax reception, press START/MEMORY.

TAD mode: Select this mode when you go out to receive both voice messages and faxes.

Storing Auto Dial Numbers

1. Press FUNCTION once and once.
2. Enter a 2-digit Speed Dial number (01 to 99; 01 to 18 for Rapid Key Dialing).
3. Enter the fax number and press START/MEMORY.
4. Enter a name by pressing number keys. (To enter two letters in succession that require the same key, press after entering the first letter.)

SPACE = 1	G = 4	N = 66	U = 88
A = 2	H = 44	O = 666	V = 888
B = 22	I = 444	P = 7	W = 9
C = 222	J = 5	Q = 77	X = 99
D = 3	K = 55	R = 777	Y = 999
E = 33	L = 555	S = 7777	Z = 9999
F = 333	M = 6	T = 8	

5. Press START/MEMORY and then STOP.

CHAPTER 2. ADJUSTMENTS

[1] Adjustments

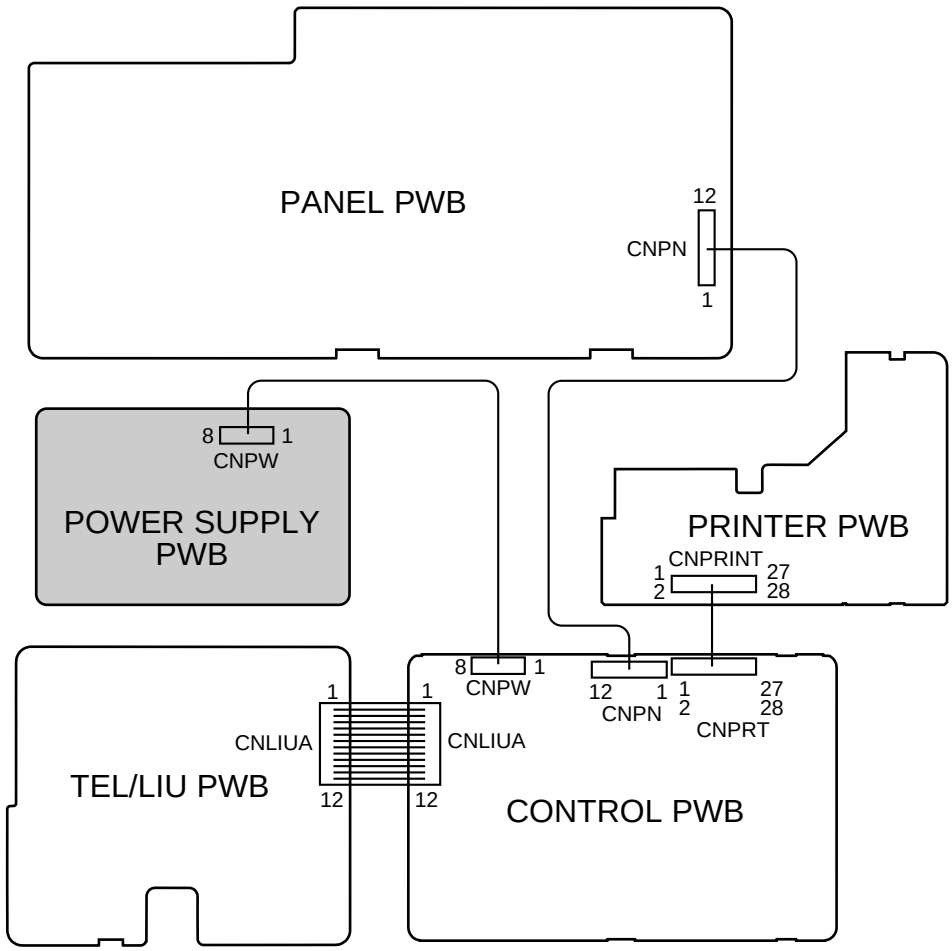
General

Since the following adjustments and settings are provided for this model, make adjustments and/or setup as necessary.

1. Adjustments of output voltage (FACTORY ONLY)

1. Install the power supply unit in the machine.
2. Set the recording paper and document.
3. When the document is loaded, power is supplied to the output lines. Confirm that outputs are within the limits below.

Output voltage settings



Output	Voltage limits
+5V	4.75V ~ 5.25V
+30V	27.0V ~ 33.0V

Connector No. / Pin No.	CNPW
1	+30V
2	+30V
3	MG
4	MG
5	DG
6	DG
7	+5V
8	+5V

Connector No. / Pin No.	CNLIUA
1	+24V
2	DG
3	MICMUTE
4	TELIN
5	TELMUTE
6	RXIN
7	TELOUT
8	TXOUT
9	CML
10	CI–
11	HS–
12	RHS–

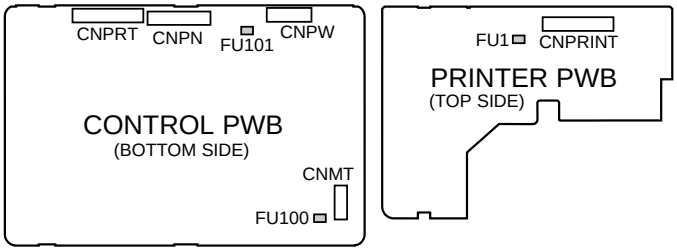
Connector No. / Pin No.	CNPN
1	KEN4A
2	KEN3A
3	KEN2A
4	KEN1A
5	DG
6	+3.3V
7	E
8	SEN0
9	SEN1
10	SEN2
11	SEN3
12	SEN4

Connector No. / Pin No.	CNPRINT	CNPRT	
1	+30V	2	MG
3	+30V	4	MG
5	+3.3VP	6	DG
7	+3.3VP	8	DG
9	PD0	10	nACK
11	PD1	12	BUSY
13	PD2	14	PERROR
15	PD3	16	nFAULT
17	PD4	18	SELECT
19	PD5	20	nSELECTIN
21	PD6	22	nINIT
23	PD7	24	nAUTOFD
25	nSTROBE	26	PIN
27	PRTRES	28	SN_Cover

2. IC protectors replacement

ICPs (IC Protectors) are installed to protect the motor driver circuit. ICPs protect various ICs and electronic circuits from an overcurrent condition.

The location of ICPs are shown below:



(1) FU100 (QFS-L1026YCZZ) is installed in order to protect IC's from an over-current generated in the motor drive circuit. If FU100 is open, replace it with a new one.
(2) FU101 (QFS-L2016XHZZ) is installed in order to protect IC's from an over-current generated in the LIU or CIS control circuit. If FU101 is open, replace it with a new one.
(3) FU1 (QFS-L1027YCZZ) is installed in order to protect IC's from an over-current generated in the motor drive circuit. If FU1 is open, replace it with a new one.

3. Settings

(1) Dial mode selector

DIAL mode (Soft Switch No. SW-B4 DATA No. 3)

(step 1) Select "OPTION SETTING".

KEY : FUNCTION → ▼▼▼▼ → ▶

DISPLAY: OPTION SETTING ▲▼▶ | FINE PRIORITY ▲▼▶

(step 2) Select "DIAL MODE".

KEY: Push ▼ until DIAL MODE ▲▼▶ is → ▶
indicated because the number of
▼ 's changes by the model.

DISPLAY: DIAL MODE ▲▼▶ | 1=TONE, 2=PULSE

(step 3) Select, using "1" or "2".

KEY: (1)

DISPLAY: TONE SELECTED

KEY: (2)

DISPLAY: PULSE SELECTED

(step 4) End, using the "STOP" key.

KEY: (STOP)

4. Volume adjustment

You can adjust the volume of the speaker, handset, and ringer using the UP and DOWN keys.

(1) Speaker

1. Press the **SPEAKER** key.
2. Press the **UP** or **DOWN** key until the display shows the desired volume level.

• Press **SPEAKER** key again to turn off the speaker.

(2) Handset

1. When talking through the handset, press **UP** or **DOWN** until the display shows the desired volume level.

Display:

RECEIVER: HIGH
↕
RECEIVER: MIDDLE
↕
RECEIVER: LOW

• **Note:** The volume reverts to MIDDLE each time you replace the handset.

(3) Ringer

1. Press the **UP** or **DOWN** key. (Make sure **SPEAKER** key has not been pressed, the handset is not lifted, and a document is not loaded in the feeder.)

Display:

RINGER: HIGH
↕
RINGER: MIDDLE
↕
RINGER: LOW
↕
RINGER OFF: OK?

• The ringer will ring once at the selected level.

2. If you selected RINGER OFF: OK?, to turn off the ringer, press START/MEMORY key.

[2] Diagnostics and service soft switch

1. Operating procedure

(1) Entering the diagnostic mode

Press FUNC → 9 → ✳ → 8 → # → 7 , and the following display will appear.

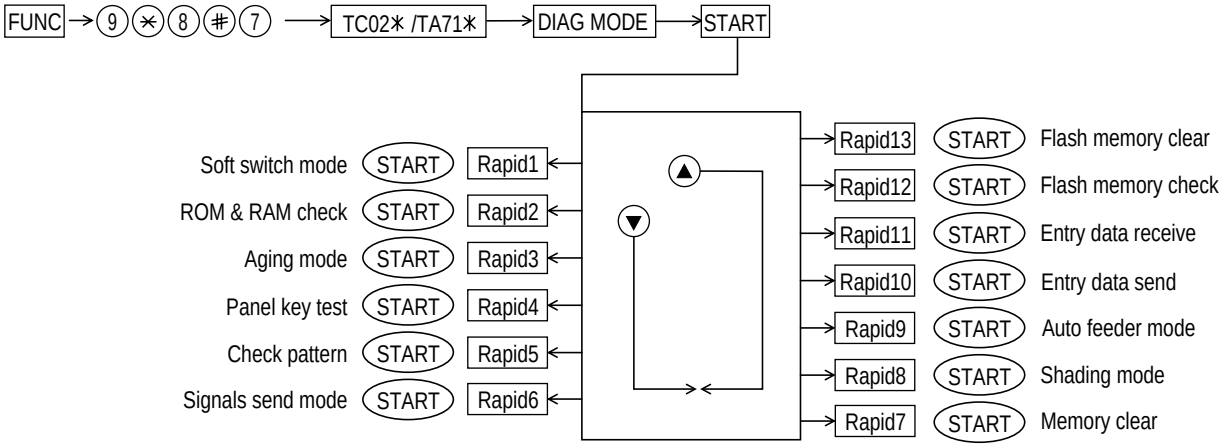
TC02 ✳ / TA71 ✳ After 2 sec: DIAG MODE

contorol PWB ROM
TC02 ✳

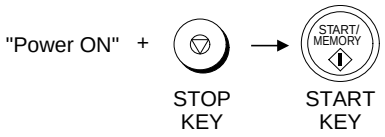
printer PWB ROM
TA71 ✳

Then press the START key. Select the desired item with the up key or the down key or select with the rapid key. Enter the mode with the START key.

(Diag•specifications)



If the diag mode cannot be set, repeat the diag mode operation, performing the following operation.
After the power is turned on and "WAIT A MOMENT" is indicated, press the STOP key.



In relation with the process response (request from Production Engineering) "WAIT A MOMENT" clock indication may appear depending on STOP key timing. If the STOP key is held down, "MEMORY CLEAR?" appears.

2. Diagnostic items

ITEM No.	Rapid No.	Contents	Function
1	Rapid 1	SOFT SWITCH MODE	Soft switches are displayed and changed. List can be output.
2	Rapid 2	ROM & RAM CHECK	ROM is sum-checked, and RAM is matched. Result list is output.
3	Rapid 3	AGING MODE	10 sheets of check patterns are output every 5 minutes per sheet.
4	Rapid 4	PANEL KEY TEST	Panel keys are tested. Result list is output.
5	Rapid 5	CHECK PATTERN	Check pattern is output.
6	Rapid 6	SIGNALS SEND MODE	Various signals of FAX communication are output.
7	Rapid 7	MEMORY CLEAR	Back-up memory is cleared, and is set at delivery.
8	Rapid 8	SHADING MODE	Shading compensation is performed in this mode.
9	Rapid 9	AUTO FEEDER MODE	Insertion and discharge of document are tested.
10	Rapid 10	ENTRY DATA SEND	Registered content is sent.
11	Rapid 11	ENTRY DATA RECEIVE	Registered content is received, and its list is output.
12	Rapid 12	FLASH MEMORY CHECK	Checks flash memory write/read.
13	Rapid 13	FLASH MEMORY CLEAR	Checks flash memory clearing.

3. Diagnostic items description

3. 1. Soft switch mode

Used to change the soft switch settings.
The soft switch which is stored internally is set by using the keys.
The available soft switches are SW-A1 to SW-P7.
The content of soft switches is shown in Soft switch description.
The contents are set to factory default settings.

3. 2. ROM & RAM check

ROM executes the sum check, and RAM executes the matching test.
The result will be notified with the number of short sounds of the buzzer as well as by printing the ROM & RAM check list.
Number of short sounds of buzzer 0 → No error
1 → FAX engine ROM error
2 → Printer engine ROM error
3 → RAM error
(4Kbytes SRAM or 2Mbytes DRAM or Printer 512bytes NV-RAM)

3. 3. Aging mode

If any document is present, copying will be executed sheet by sheet. If no document is present, the check pattern will be printed sheet by sheet. This operation will be executed at a rate of one sheet per 5 minutes, and will be ended at a total of 10 sheets.

3. 4. Panel key test

This mode is used to check whether each key operates properly. Press the key on the operation panel, and the key will be displayed on the LCD. Therefore, press all keys. At this time, finally press the STOP key. When the STOP key is pressed, the keys that are not judged as "pressed" will be printed on the result list.

- LED part of the contact image sensor (CIS) is kept on during the term from when "START" of the panel test mode to end with the STOP key.

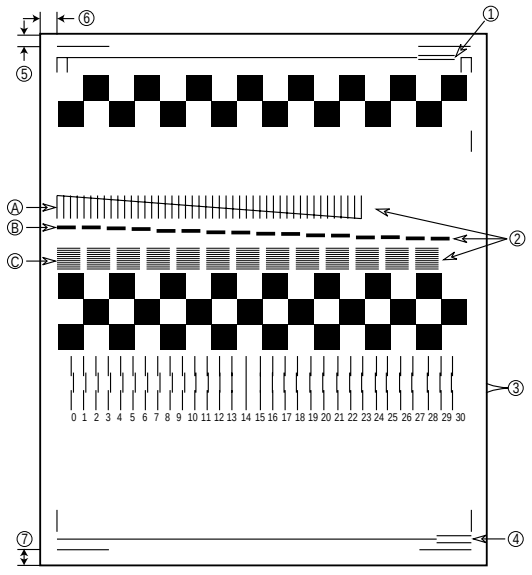
3. 5. Check pattern

Check patterns are printed on one sheet.
Printing performance:The following 4 items are checked.

- Print area:Checks that the print area is reserved.
- Nozzles:When checking the nozzle, make sure at least 1 line is printed in each block: all the blocks of horizontal black bars and the black line patterns in Ⓑ and Ⓒ (Ⓑ:16 patterns, Ⓒ:13 patterns).
  (Note: If the nozzle Ⓐ is not spraying properly, checking the area Ⓑ and Ⓒ may be difficult (or may not be printed at all). In this case, print again.
- Vertical align:Checks that the straight vertical line is drawn instead of crooked line.
- Skew:Checks the skew of the recording paper.

Detailed of check patterns

① Top skew	② Nozzle test	③ Vertical lines
④ Bottom skew	⑤ Top margin	⑥ Left margin
⑦ Bottom margin		



3. 6. Signals send mode

This mode is used to send various signals to the circuit during FAX communication. Every push of START key sends a signal in the following sequence. Moreover, the signal sound is also output to the speaker when the line monitor of the soft switch is on.

[1] No signals	[8] 9600BPS (V.29)
[2] 14400BPS (V.33)	[9] 7200BPS (V.29)
[3] 12000BPS (V.33)	[10] 4800BPS (V.27ter)
[4] 14400BPS (V.17)	[11] 2400BPS (V.27ter)
[5] 12000BPS (V.17)	[12] 300BPS (FLAG)
[6] 9600BPS (V.17)	[13] 2100Hz (CED)
[7] 7200BPS (V.17)	[14] 1100Hz (CNG)

3. 7. Memory clear

This mode is used to clear the backup memory and reset to the default settings.

3. 8. Shading mode

The mode is used for the shading com-pensation. For reading, set up the special original paper. (Refer to page 8-6)
The compensation memorizes the reference data of white and black for reading.Moreover, the memorized data is not erased even if memory clear mode is executed.

3. 9. Auto feeder mode

In this mode, a document is inserted and discharged to check the auto feed function. After this mode is started, set a document, and the document feed will be automatically tested.

3. 10. Entry data send

This mode is used to send the registered data to another machine and make the other machine copy the registered content.
Before sending in this mode, it is necessary to set the other machine at the entry data receive mode.

The following, information will be send to the remote machine:

1. Telephone list data
2. Sender register data
3. Optional setting data
4. Soft switch content
5. Junk fax number
6. Recording setting list data

3. 11. Entry data receive

In this mode, the registered data sent from the other machine is received and the received data is registered in the machine. When this mode is used for receiving, the other machine must be in the entry data send mode.

After receiving is completed, the following lists are printed.

1. Telephone list data
2. Sender register list (*)
3. Optional setting list (*)
4. Soft switch content
5. Junk fax number list (*)
6. Recording setting list data (*)

(*): Refer to SETUP LIST

3. 12. Flash memory check

Data is written into and read from the flash memory to check data conformity. When the unit enters this mode, the check is started.

3. 13. Flash memory clear

Data in the flash memory is cleared (memory clear). When the unit enters this mode, the check is started.
*Operation of hardware and signal in the flash memory check mode and flash memory clear mode, and the result of check.
The result is announced by the buzzer beeps. The result of check is printed.
Beeps
0 → No error
1 → Memory error

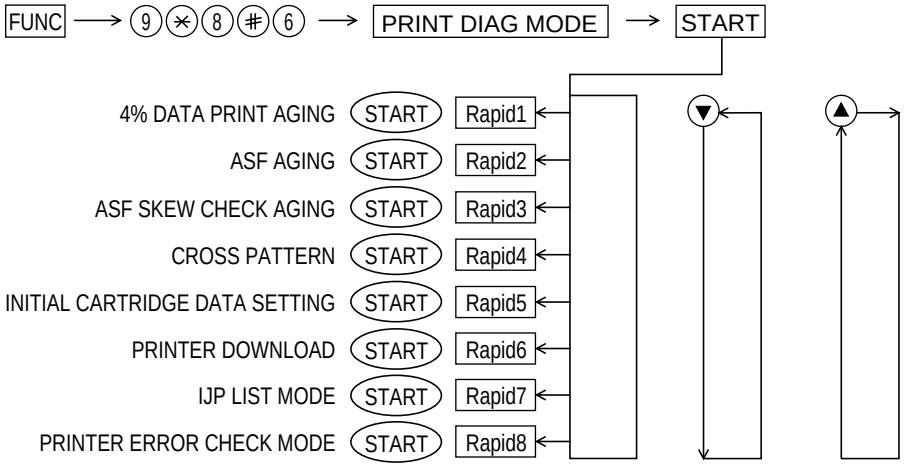
4. Entering the printer diagnostic mode

Press [FUNC] → [9] → [⊗] → [8] → [#] → [6], and the following display will appear.

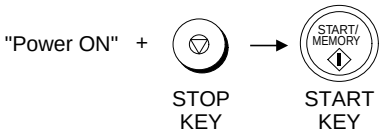
[PRINT DIAG MODE]

Then press the [START] key. Select the desired item with the up key or the down key or select with the rapid key. Enter the mode with the START key.

(Diag•specifications)



If the diagnostic mode cannot be set, repeat the diagnostic mode operation, performing the following operation.
After the power is turned on and "WAIT A MOMENT" is indicated, press the STOP key.



In relation with the process response (request from Production Engineering) "WAIT A MOMENT" clock indication may appear depending on STOP key timing. If the STOP key is held down, "MEMORY CLEAR?" appears.

5. Printer diagnostic items

ITEM No.	Rapid No.	Contents	Function
1	Rapid 1	4% DATA PRINT AGING	4% of printing data continue to be printed.
2	Rapid 2	ASF AGING	The feed of the paper is continued.
3	Rapid 3	ASF SKEW CHECK AGING	The frame pattern continues to be printed to check the inclination performance.
4	Rapid 4	CROSS PATTERN	The image data of the cross pattern to be printed.
5	Rapid 5	INITIAL CARTRIDGE DATA SETTING	It makes the dot counter the setting for the initial cartridge.
6	Rapid 6	PRINTER DOWNLOAD	This mode rewrites the software of the printer engine.
7	Rapid 7	IJP LIST MODE	The maintenance data is printed.
8	Rapid 8	PRINTER ERROR CHECK MODE	The cause of “PRINTER ERROR” message is displayed.

6. Printer diagnostic items description

6. 1. 4% data print aging

This mode is the aging mode that prints the text pattern of 4%

6. 2. ASF aging (all white)

This mode is the aging mode that tests the performance of the ASF function.

6. 3. ASF skew check aging

This mode is the aging mode that tests the performance of the ASF function.
Detailed of check patterns
1. Top skew
2. Bottom skew
3. Top margin
4. Bottom margin

6. 4. Cross pattern

This mode prints the test pattern that tests the performance of the printer.

6. 5. Initial cartridge data setting

This mode makes the dot counter the setting for initial cartridge,
And this mode resets the following counter.
1. Replacement counter of the cartridge
2. Paper jam counter

6. 6. Printer download

This mode rewrites the software of the printer engine.

6. 7. IJP list mode

Maintenance data of the printer is output.
[Details of maintenance data]

Item	Clear timing	Updata timing
Dot counter	At the replacement cartidge	After printing
Page counter	At the replacement cartidge	After printing
Number of head cleaning (Wiping of cartridge)	At the initial cartridge setting	At the maintenance
Replacement counter of the cartridge	At the initial cartridge setting	At the replacement of cartridge
Jam counter	At the initial cartridge setting	At every paper jam

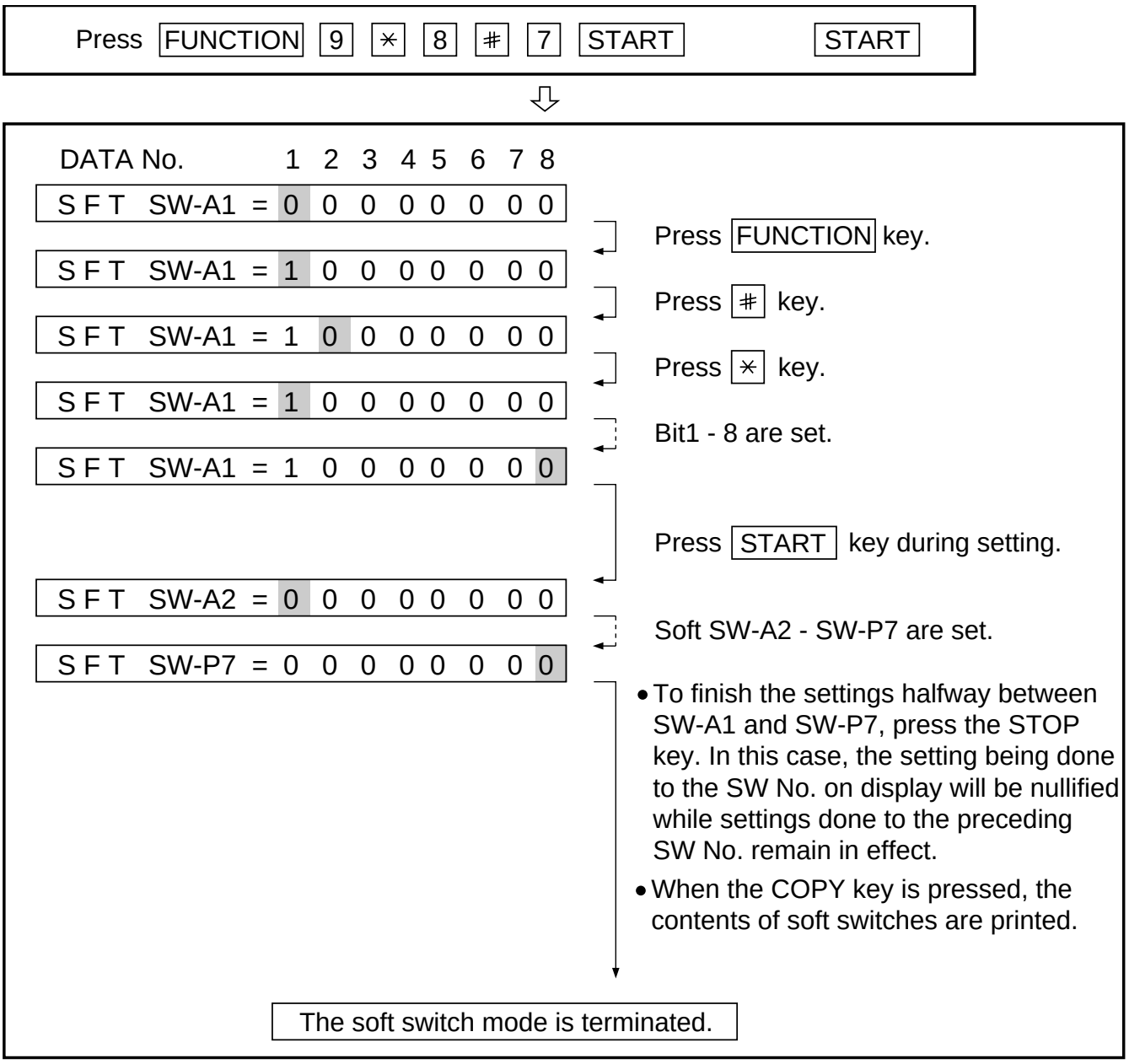
6. 8. Printer error check mode

The cause of “PRINTER ERROR” message is displayed.
[Details of Display]

Display	Cause of “PRINTER ERROR” message
PRINTER ERR 01	Power on reset response was not received from printer.
PRINTER ERR 02	Printer interface ASIC data buffer was full and not resume for 180sec.
PRINTER ERR 03	Carrier was not reached to cap position for 15sec after cover closed.
PRINTER ERR 04	NPA command was not forwarded to printer for 5sec.
PRINTER ERR 05	Printer interface ASIC command buffer error was occurred during NPA command forwarding.
PRINTER ERR 06	NPA response was not received for 5sec.
PRINTER ERR 07	Printer interface ASIC response buffer error was occurred during NPA response receiving.
PRINTER ERR 08	ESC* command was not forwarded to printer for 5sec.
PRINTER ERR 09	Printer interface ASIC command buffer error was occurred during ESC* command forwarding.
PRINTER ERR 10	Print data transfer from Printer interface ASIC to printer was not completed for 180sec.
PRINTER ERR 11	Last printed page was not exited for 60sec.
PRINTER ERR 12	Carrier was not reached to cap position for 60sec after last printed page was exited.
PRINTER ERR 13	Alignment pattern or Clean nozzles pattern printing was not completed for 60sec.
PRINTER ERR 14	Printer interface ASIC print data bit error was occurred.
PRINTER ERR 15	Printer interface ASIC print data DRAM writing error was occurred.
PRINTER ERR 21	Reserved
PRINTER ERR 22	Reserved
PRINTER ERR 23	Reserved
PRINTER ERR 24	Carrier stall error
PRINTER ERR 25	Printer PWB NVRAM error
PRINTER ERR 26	Printer could not output print data.
PRINTER ERR 27	Printer head short error
PRINTER ERR 31	Received NPA response was not for "Loop Back" command.
PRINTER ERR 32	Received NPA response was not for "Register For DSA" command.
PRINTER ERR 33	Received NPA response was not for "Print Head Information" command.
PRINTER ERR 34	Received NPA response was not for "Set Alignment Data" command.
PRINTER ERR 35	Received NPA response was not for "Get Printer Firmware Version" command.
PRINTER ERR 36	Received NPA response was not for "Printer ROM & RAM Check" command.
PRINTER ERR 37	Received NPA response was not for "Printer ROM Checksum" command.
PRINTER ERR 38	Received NPA response was not for "Cartridge Initial" command.
PRINTER ERR 39	Received NPA response was not for "Default Cartridge" command.
PRINTER ERR 40	Received NPA response was not for "Reset Wipe Count" command.
PRINTER ERR 41	Received NPA response was not for "Reset Page Count" command.
PRINTER ERR 51	Invalid command parameters was forwarded to printer.
PRINTER ERR 52	No supported command was forwarded to printer.
PRINTER ERR 53	Forwarded command was rejected by printer.

7. How to make soft switch setting

To enter the soft switch mode, press the following key entries in sequence.


Press FUNCTION 9 ✳ 8 # 7 START
START
DATA No. 1 2 3 4 5 6 7 8
S F T SW-A1 = 0 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A1 = 1 0 0 0 0 0 0 0
S F T SW-A2 = 0 0 0 0 0 0 0 0
S F T SW-P7 = 0 0 0 0 0 0 0 0
Press FUNCTION key.
Press # key.
Press ✳ key.
Bit1 - 8 are set.
Press START key during setting.
Soft SW-A2 - SW-P7 are set.
• To finish the settings halfway between SW-A1 and SW-P7, press the STOP key. In this case, the setting being done to the SW No. on display will be nullified while settings done to the preceding SW No. remain in effect.
• When the COPY key is pressed, the contents of soft switches are printed.
The soft switch mode is terminated.

8. Soft switch description

• Soft switch

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I A1	1	Protect from echo	No	Yes	0	
	2	Forced 4800 BPS reception	Yes	No	0	
	3	Footer print	Yes	No	0	
	4	Length limitation of copy/send/receive	No limit	Copy/send: 60cm Receive: 1m	0	
	5	CSI transmission	No transmitted	Transmitted	0	
	6	DIS receive acknowledgement during G3 transmission	Twice	NSF: Once DIS: Twice	0	
	7	Non-modulated carrier for V29 transmission mode	Yes	No	0	
	8	EOL (End Of Line) detect timer	25 sec	13 sec	0	

SW NO.	DATA NO.	ITEM	V.33		V.17				V.29		V.27 ter		Initial setting	Remarks
			14400	12000	14400	12000	9600	7200	9600	7200	4800	2400		
SW I A2		Modem speed												
	1		0	0	1	1	1	1	0	0	0	0	1	
	2		1	1	0	0	0	0	0	0	0	0	0	
	3		0	1	0	1	0	1	0	1	1	0	0	
	4		0	0	0	0	1	1	1	1	0	0	0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I A2	5	Sender's information transmit	No	Yes	0	
	6	Reserved			0	
	7	Communication error treatment in RTN sending mode (Reception)	No communication error	Communication error	0	
	8	CNG transmission	No	Yes	0	

SW NO.	DATA NO.	ITEM		1000ms	750ms	500ms	75ms	Initial setting	Remarks
SW I A3		CED tone signal interval							
	1		No. 1	1	1	0	0	0	
	2		No. 2	1	0	1	0	0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I A3	3	MR coding	No	Yes	0	
	4	ECM mode	No	Yes	0	OPTION
	5	ECM MMR mode	No	Yes	0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
SW I A4	1	Signal transmission level	Binary input No. = 16 8 4 2 1 1 2 3 4 5 EX 0 1 0 0 0 eg. Signal transmission level is set to –8dBm.		0 1 0 0 0	
	6	Protocol monitor (Error print)	Printed at communication. error	Not printed	0	
	7	Protocol monitor	Yes	No	0	
	8	Line monitor	Yes	No	0	

SW NO.	DATA NO.	ITEM		7.2km	3.6km	1.8km	0km	Initial setting	Remarks
SW I A5		Digital line equalization setting (Reception)							
	1		No. 1	1	1	0	0	1	
	2		No. 2	1	0	1	0	1	
		Digital line equalization setting		7.2km	3.6km	1.8km	0km		
	3	(Transmission)	No. 3	1	1	0	0	0	
	4		No. 4	1	0	1	0	0	

SW NO.	DATA NO.	ITEM		7.2km	0km	Initial setting	Remarks
SW I A5		Digital cable equalizer setting (Reception					
	5	for Caller ID)	No. 5	1	0	0	
	6		No. 6	1	0	0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I A5	7	Error criterion	10 ~ 20 %	5 ~ 10 %	0	
	8	Anti junk fax check	Yes	No	1	

SW NO.	DATA NO.	ITEM	Switch setting and function 1	Switch setting and function 0	Initial setting	Remarks
SW I A6	1	Reserved			0	
	2	End Buzzer	Yes	No	1	
	3	Disconnect the line when DIS is received in RX mode	No	Yes	1	
	4	Equalizer freeze control (MODEM)	On	Off	0	
	5	Equalizer freeze control 7200 BPS only	No	Yes	0	
	6	CNG transmission in manual TX mode	Yes	No	1	
	7	Reserved			0	
	8	Modem speed automatic fallback when RX level is under -40dBm	Yes	No	0	
SW I B1	1	Recall interval	Binary input		0	
	2		No. = 8 4 2 1		1	
	3		1 2 3 4		0	
	4		EX 0 1 0 1 eg. Recall interval is set to 5 min.		1	
	5	Recall times	Binary input		0	
	6		No. = 8 4 2 1		0	
	7		5 6 7 8		1	
	8		EX 0 0 1 1 eg. Recall times is set to 3 times.		1	
SW I B2	1	Dialing pause (sec/pause)	4 sec	2 sec	0	
	2	Dial tone detection (before auto dial)	No	Yes	1	
	3	Reserved			0	
	4	Busy tone detection (after auto dial)	No	Yes	0	
		Waiting time after dialing	45 seconds	55 seconds / 90 seconds / 140 seconds		
	5		No.5: 0	0 / 1 / 1	0	
	6		No.6: 0	1 / 0 / 1	0	
	7	Reserved			0	
	8	Reserved			0	
SW I B3	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
		Auto dial mode delay timer of before line connect	0 second	1.5 seconds / 3.0 seconds / 4.5 seconds		
	6		No.6: 0	0 / 1 / 1	0	
	7		No.7: 0	1 / 0 / 1	0	
	8	Hold key	Enable	Disable	1	
SW I B4		Auto dial mode delay timer of after line connect	1.7 seconds	3.0 seconds / 3.6 seconds / 4.0 seconds		
	1		No.1: 0	0 / 1 / 1	0	
	2		No.2: 0	1 / 0 / 1	0	
	3	Dial mode	Tone	Pulse	1	OPTION
	4	Pulse → Tone change function by ✳ key	Enable	Disable	1	
	5	Dial pulse make/break ratio (%)	40/60	33/67	1	
	6	Reserved			0	
	7	Reserved			0	
	8	Recalling fixed only one time when dialing was unsuccessful without detecting busy tone signal	Yes	No	1	
SW I B5	1	DTMF signal transmission level (Low)	Binary input		0	
	2		No. = 16 8 4 2 1		1	
	3		1 2 3 4 5 (nX0.5dBm)		0	
	4		EX 0 1 0 0 0		0	
	5		eg. Signal transmission level is set to –4dBm.		0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I B6	1	DTMF signal transmission level (High)	Binary input		0	
	2		No. = 16 8 4 2 1		0	
	3		1 2 3 4 5 (n x 0.5dBm)		1	
	4		EX 0 0 1 0 1		0	
	5		eg. Signal transmission level is set to –2.5dBm.		1	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

SW NO.	DATA NO.	ITEM		Factory setting	Light	Dark	Darker in dark	Initial setting	Remarks
SW I C1		Reading slice (Binary)							
	1		No. 1	0	1	0	1	0	
	2		No. 2	0	0	1	1	0	
		Reading slice (Half tone)		Factory setting	Light	Dark	Darker in dark		
	3		No. 3	0	1	0	1	0	
	4		No. 4	0	0	1	1	0	

SW NO.	DATA NO.	ITEM	1	0	Initial setting	Remarks
SW I C1	5	Line density selection	Fine	Standard	0	OPTION
	6	Reserved			0	
	7	MTF correction in half tone mode	No	Yes	0	
	8	Reserved			0	
SW I D1	1	Number of rings for auto receive	Binary input		0	OPTION
	2		No. = 8 4 2 1		1	
	3		1 2 3 4		0	
	4		EX 0 1 0 0		0	
			eg. Number of rings for auto receive is set to 4 times.			
	5	Automatic switching manual to auto receive mode	Reception after 5 rings	No reception	0	
	6	Reserved			0	

SW NO.	DATA NO.	ITEM		As PTT	11.5Hz	13.0Hz	20.0Hz	Initial setting	Remarks
SW I D1		CI detect frequency							
	7		No.7	0	0	1	1	0	
	8		No.8	0	1	0	1	0	

SW NO.	DATA NO.	ITEM		OFF	STANDARD	PATTERN1	PATTERN2	PATTERN3	PATTERN4	PATTERN5	Initial setting	Remarks
SW I D2		Distinctive ringing setting (PATTERN 4 and 5 are for CANADA only)										OPTION
	1		No. 1	0	0	0	0	1	1	1	0	
	2		No. 2	0	0	1	1	0	0	1	0	
	3		No. 3	0	1	0	1	0	1	0	0	

SW NO.	DATA NO.	ITEM	1	0	Initial setting	Remarks
SW I D2	4	Reserved			0	
	5	Caller ID function	Yes	No	0	OPTION
	6	Caller ID detect during CI off	All times	Only first	0	
	7	Reserved			0	
	8	Reserved			0	
SW I D3	1	CI off detection timer (0-1550ms setting by 50ms step)	Binary input		0	
	2		No. = 16 8 4 2 1		1	
	3		1 2 3 4 5 (nX50ms)		1	
	4		EX 0 1 1 1 0		1	
	5		eg. CI signal OFF detect time is set to 700ms.		0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1				0		
SW I E1	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I E2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I E3	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I F1		DTMF detection time		50ms	80ms	100ms	120ms		
	1		No. 1	0	0	1	1	0	
	2		No. 2	0	1	0	1	0	
	3	Protection of remote reception (5 ✳✳) detect	Yes			No		0	
	4	Remote reception with GE telephone	Compatible			Not compatible		1	
	5	Remote operation code figure by external	Binary input					0	OPTION
	6	TEL (0~9)	No. = 8 4 2 1					1	
	7		5 6 7 8					0	
	8		EX 0 1 0 1 eg. Remote operation code is set to 5 ✳✳.					1	
SW I F2	1	CNG detection in STAND-BY mode	Yes			No		1	OPTION
		Number of CNG detect (AM mode)		1pulse	2pulses	3pulses	4pulses		
	2		No. 2	0	0	1	1	0	
	3		No. 3	0	1	0	1	1	
		Number of CNG detect (STAND-BY mode)		1pulse	2pulses	3pulses	4pulses		
	4		No. 4	0	0	1	1	0	
	5		No. 5	0	1	0	1	1	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I G1	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	

SW NO.	DATA NO.	ITEM	Switch setting and function					Initial setting	Remarks
			1				0		
SW I G2	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Reserved						0	
	8	Reserved						0	
SW I G3	1	Reserved						0	
	2	Reserved						0	
	3	Reserved						0	
	4	Reserved						0	
	5	Reserved						0	
	6	Reserved						0	
	7	Choice after quiet detect	Wait response for 3sec				Normal FAX RX	0	
	8	Reserved						0	
SW I H1		Busy tone detection ON/OFF time		150ms	200ms	250ms	350ms		
	1	(Lower duration)	No. 1	0	0	1	1	0	
	2		No. 2	0	1	0	1	1	
		Busy tone detection ON/OFF time		650ms	900ms	1500ms	2700ms		
	3	(Upper duration)	No. 3	0	0	1	1	0	
	4		No. 4	0	1	0	1	1	
	5	Busy tone detect continuation sound detect during OGM	No				Yes	0	
	6	Busy tone detect continuation sound detect	No				Yes	0	
	7	Busy tone detect intermittent sound detect during OGM	No				Yes	0	
	8	Busy tone detect intermittent sound detect	No				Yes	0	
SW I H2		Busy tone detection pulse number		2pulses	4pulses	6pulses	10pulses		
	1		No. 1	0	0	1	1	0	
	2		No. 2	0	1	0	1	1	
	3	Fax switching when A.M. full	Yes				No	0	OPTION
	4	Busy tone detect continuation sound detect frequency	320Hz - 570Hz				320Hz - 460Hz	0	
	5	Reserved						0	
	6	Reserved						0	
	7	AM OGM announce only mode	Yes				No	0	OPTION
	8	Busy tone continuous sound detect time	5sec				10sec	1	
SW I I1		ICM recording time		4min	15sec	30sec	60sec		OPTION
	1		No. 1	0	0	1	1	0	
	2		No. 2	0	1	0	1	0	
		A.M. quiet time 1		2sec	3sec	4sec	5sec		
	3		No. 3	0	0	1	1	0	
	4		No. 4	0	1	0	1	0	
		A.M. quiet time 2		0sec	1sec	2sec	3sec		
	5		No. 5	0	0	1	1	1	
	6		No. 6	0	1	0	1	0	
	7	Key input buzzer on/off switch (Two way recording mode)	On				Off	0	
	8	CPC signal detection	Yes				No	1	OPTION

SW NO.	DATA NO.	ITEM	Switch setting and function									Initial setting	Remarks
			1					0					
SW I I2	1	A.M. quiet detect time	Binary input									0	
	2		No. =	16	8	4	2	1				0	
	3			1	2	3	4	5				1	
	4			0	0	1	1	0				1	
	5											0	
		CPC detection time		4ms	20ms	40ms	70ms	140ms	160ms	200ms	290ms		
	6		No.6	0	0	0	0	1	1	1	1	1	
	7		No.7	0	0	1	1	0	0	1	1	1	
	8		No.8	0	1	0	1	0	1	0	1	1	
SW I I3	1	Reserved										0	
	2	Max OGM record time	15sec								60sec	0	
	3	Two way record function	Disable								Enable	0	
	4	Toll saver	Disable								Enable	0	OPTION
	5	Reserved										0	
	6	Reserved										0	
	7	Reserved										0	
	8	Transfer dial recall	No								Yes	0	
SW I I4	1	AGC maximum gain (Line)	Binary input									0	
	2	(10 ~ 25 dB) (1 dB step)	No. =	8	4	2	1					1	
	3			1	2	3	4					0	
	4			0	1	0	1					1	
	5	AGC maximum gain (Mic)	Binary input									0	
	6	(10 ~ 25 dB) (1 dB step)	No. =	8	4	2	1					1	
	7			5	6	7	8					1	
	8			0	1	1	0					0	
SW I I5	1	AGC energy refrence level access code (Line)	Binary input									1	
	2	(-0 ~ -30 dB) (2 dB step)	No. =	8	4	2	1					0	
	3			1	2	3	4					1	
	4			1	0	1	1					1	
	5	AGC energy refrence level access code (Mic)	Binary input									1	
	6	(-0 ~ -30 dB) (2 dB step)	No. =	8	4	2	1					1	
	7			5	6	7	8					0	
	8			1	1	0	1					1	
SW I I6	1	AGC gain adaptation threshold (Line)	Binary input									1	
	2		No. =	8	4	2	1					1	
	3			1	2	3	4					1	
	4			1	1	1	1					1	
	5	AGC gain adaptation threshold (Mic)	Binary input									1	
	6		No. =	8	4	2	1					1	
	7			5	6	7	8					1	
	8			1	1	1	1					1	
SW I I7		AGC slew rate (Line)		Slow		Normal		Little fast		Fast			
	1		No. 1	0		0		1		1		0	
	2		No. 2	0		1		0		1		1	
		AGC slew rate (Mic)		Slow		Normal		Little fast		Fast			
	3		No. 3	0		0		1		1		1	
	4		No. 4	0		1		0		1		1	
	5	Reserved										0	
	6	Reserved										0	
	7	Reserved										0	
	8	Reserved										0	

SW NO.	DATA NO.	ITEM	Switch setting and function						Initial setting	Remarks
			1				0			
SW I J1	1	Activity report print	Automatic printout				No printout when memory full		0	OPTION
	2	Total communication hours and pages print	No				Yes		0	
	3	Sender's phone number setting	Cannot change				Change allowed		0	
	4	Reserved							0	
	5	Reserved							0	
	6	Summer time setting	No				Yes		1	OPTION
		Ringer volume		Off	Low	Middle	High			OPTION
	7		No. 7	0	0	1	1		1	
	8		No. 8	0	1	0	1		0	
SW I J2	1	Reserved							0	
	2	Reserved							0	
	3	Polling key	Yes				No		0	OPTION
		Handset receiver volume		Low	Low	Middle	High			OPTION
	4		No. 4	0	0	1	1		1	
	5		No. 5	0	1	0	1		0	
		Speaker volume (5 stages)		Very Low	Low	Middle	High	Very High		OPTION
	6		No. 6	0	0	0	0	1	0	
	7		No. 7	0	0	1	1	0	1	
	8		No. 8	0	1	0	1	0	0	
SW I J3	1	Reserved							0	
		Communication results printout (Transaction report)		E/T/M	Send only	Always	No print	Err only		OPTION
	2		No. 2	0	0	0	0	1	1	
	3		No. 3	0	0	1	1	0	0	
	4		No. 4	0	1	0	1	0	0	
	5	OGM/ICM output level to speaker	Binary input						0	
	6	(0 dB ~ -15 dB) (1 dB step)	No. =	8	4	2	1		0	
	7			5	6	7	8		1	
	8			0	0	1	1		1	
SW I K1	1	Reserved							0	
	2	Reserved							0	
	3	OGM/ICM output level	Binary input						0	
	4	(0 dB ~ -32 dB) (1 dB step)	No. =	32	16	8	4	2	1	0
	5			3	4	5	6	7	8	1
	6			0	0	1	0	0	1	0
	7									0
	8									1
SW I L1	1	Reserved							0	
	2	Reserved							0	
	3	Reserved							0	
	4	Reserved							0	
	5	Cut off mode (COPY mode)	Yes				No		1	OPTION
	6	A4 paper enable	Enable				Disable		0	
	7	LEGAL & LETTER paper enable	Enable				Disable		1	
	8	Reserved							0	

SW NO.	DATA NO.	ITEM	Switch setting and function				Initial setting	Remarks
			1		0			
SW I L2		Paper set size		LETTER	LEGAL	A4		OPTION
	1		No. 1	0	0	1	0	
	2		No. 2	0	1	0	0	
	3	Automatic reduce of receive	Auto		100 %		1	OPTION
	4	Reserved					0	
	5	Reserved					0	
	6	Reserved					0	
	7	Reserved					0	
	8	Reserved					0	
SW I M1	1	Reserved					0	
	2	Reserved					0	
	3	Reserved					0	
	4	Reserved					0	
	5	Reserved					0	
	6	Reserved					0	
	7	Reserved					0	
	8	Reserved					0	
SW I M2	1	Reserved					0	
	2	Reserved					0	
	3	Reserved					0	
	4	Reserved					0	
	5	Reserved					0	
	6	Reserved					0	
	7	Reserved					0	
	8	Reserved					0	
SW I N1	1	Reserved					0	
	2	Reserved					0	
	3	Reserved					0	
	4	Reserved					0	
	5	Reserved					0	
	6	Reserved					0	
	7	Reserved					0	
	8	Reserved					0	
SW I N2	1	Reserved					0	
	2	Reserved					0	
	3	Reserved					0	
	4	Reserved					0	
	5	Reserved					0	
	6	Reserved					0	
	7	Reserved					0	
	8	Reserved					0	
SW I N3	1	Reserved					0	
	2	Reserved					0	
	3	Reserved					0	
	4	Reserved					0	
	5	Reserved					0	
	6	Reserved					0	
	7	Reserved					0	
	8	Reserved					0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW I O1	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I O2	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I O3	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I O4	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I O5	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW I O6	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

SW NO.	DATA NO.	ITEM	Switch setting and function		Initial setting	Remarks
			1	0		
SW P1	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW P2	1	Reserved			1	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			1	
	5	Reserved			1	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			1	
SW P3	1	Reserved			1	
	2	Reserved			0	
	3	Reserved			1	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			1	
	8	Reserved			0	
SW P4	1	Reserved			0	
	2	Reserved			1	
	3	Reserved			0	
	4	Reserved			1	
	5	Reserved			1	
	6	Reserved			1	
	7	Reserved			1	
	8	Reserved			0	
SW P5	1	Reserved			1	
	2	Reserved			0	
	3	Reserved			1	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			1	
	8	Reserved			0	
SW P6	1	Ink save mode	Yes	No	0	OPTION
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	
SW P7	1	Reserved			0	
	2	Reserved			0	
	3	Reserved			0	
	4	Reserved			0	
	5	Reserved			0	
	6	Reserved			0	
	7	Reserved			0	
	8	Reserved			0	

• Soft switch function description

SW-A1 No. 1 Protect from echo

Used to protect from echo in reception.

SW-A1 No. 2 Forced 4800BPS reception

When line conditions warrant that receptions take place at 4800 BPS repeatedly.

It may improve the success of receptions by setting at 4800BPS.

This improves the receiving document quality and reduces handshake time due to fallback during training.

SW-A1 No. 3 Footer print

When set to "1", the date of reception, the sender machine No., and the page No. are automatically recorded at the end of reception.

SW-A1 No. 4 Length limitation of copy/send/receive

Used to set the maximum page length.

To avoid possible paper jam, the page length is normally limited to 0.6 meter for copy or transmit, and 1 meters for receive.

It is possible to set it to "No limit" to transmit a long document, such as a computer print form, etc. (In this case, the receiver must also be set to no limit.)

SW-A1 No. 5 CSI transmission

(CSI TRANSMISSION) is a switch to set whether the machine sends or does not send the signal (CSI signal) informing its own telephone No. to the remote fax machine when information is received. When "nonsending" is set, the telephone No. is not output on the remote transmitting machine if the remote transmitting machine has the function to display or print the telephone No. of receiving machine, using this CSI signal.

SW-A1 No. 6 DIS receive acknowledgment during G3 transmission

Used to make a choice of whether reception of DIS (NSF) is acknowledged after receiving two DISs (NSFs) or receiving one DIS (two NSFs). It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

SW-A1 No. 7 Non-modulated carrier for V29 transmission mode

Though transmission of a non-modulated carrier is not required for transmission by the V29 modem according to the CCITT recommendation, it may be permitted to a send non-modulated carrier before the image signal to avoid an echo suppression problem. It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

SW-A1 No. 8 EOL (End Of Line) detect timer

Used to make a choice of whether to use the 25-second or 13-second timer for detection of EOL.
This is effective to override communication failures with some facsimile models that have longer EOL detection.

SW-A2 No. 1 ~ No. 4 Modem speed

Used to set the initial modem speed. The default is 14400BPS.
It may be necessary to program it to a slower speed when frequent line fallback is encountered, in order to save the time required for fallback procedure.

SW-A2 No. 5 Sender's information transmit

(SENDER'S INFORMATION TRANSMISSION) is a switch to set the function to print the content of HEADER PRINT described in the passcode list at the front end of receiver's original when original is sent to the remote machine.

If this switch is set to "NO", the HEADER PRINT is not output at the receiving machine.

SW-A2 No. 6 Reserved

Set to "0".

SW-A2 No. 7 Communication error treatment in RTN sending mode (Reception)

Used to determine communication error treatment when RTN is sent by occurrence of a received image error in G3 reception. When it is set to "1", communication error is judged as no error.

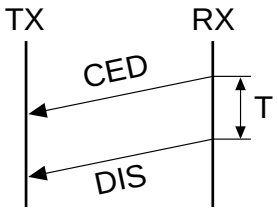
SW-A2 No. 8 CNG transmission

When set to "0" , this model allows CNG transmission by pressing the Start key in the key pad dialing mode. When set to "1", CNG transmission in the key pad dialing mode cannot be performed. In either case. CNG transmission can be performed in the auto dial mode.

SW-A3 No. 1, No. 2 CED tone signal interval

For international communication, the 2100Hz CED tone may act as an echo suppression switch, causing a communication problem.

Though SW-A3 No. 1 and No. 2 are normally set to 0, this selfing is used to change the time between the CED tone signal to eliminate the communication caused by echo.



SW-A3 No. 3 MR coding

MR Coding is enable.

SW-A3 No. 4 ECM mode

Used to determine ECM mode function. Refer to following table.

SW-A3 No.4 ECM MODE		0	0	1	1
SW-A3 No.5 ECM MMR MODE		0	1	0	1
Compression method	ECM MMR mode	Yes	No	No	No
	ECM MH mode	Yes	Yes	No	No
	MR Mode	Yes	Yes	Yes	Yes

(Depending on remote machine)

SW-A3 No. 5 ECM MMR mode

See SW-A3 No. 4.

SW-A3 No. 6 ~ No. 8 Reserved

Set to "0".

SW-A4 No. 1 ~ No. 5 Signal transmission level

Used to control the signal transmission level in the range of-0dB to-31dB.

SW-A4 No. 6 Protocol monitor (Error print)

If set to "1", protocol is printed at communication error.

SW-A4 No. 7 Protocol monitor

Normally set to "0". If set to "1", communication can be checked, in case of trouble, without using a G3 tester or other tools.
When communication FSK data transmission or reception is made, the data is taken into the buffer. When communication is finished, the data is analysed and printed out. When data is received with the line monitor (SW-A4 No. 8) set to "1" the reception level is also printed out.

SW-A4 No. 8 Line monitor

Normally set to "0". If set to "1", the transmission speed and the reception level are displayed on the LCD. Used for line tests.

SW-A5 No. 1, No. 2 Digital line equalization setting (Reception)

Line equalization when reception is to be set according to the line characteristics.

Setting should be made according to distance between the telephone and the telephone company central switching station.

SW-A5 No. 3, No. 4 Digital line equalization setting (Transmission)

Line equalization when transmitter is to be set according to the line characteristics.
Setting should be made according to distance between the telephone and the telephone company central switching station.

SW-A5 No. 5, No. 6 Digital cable equalizer setting (Reception for Caller ID)

Line equalization when reception for CALLER ID is to be set according to the line characteristics.
Setting should be made according to distance between the telephone and the telephone company central switching station.

SW-A5 No. 7 Error criterion

Used to select error criterion for sending back RTN when receiving image data.

SW-A5 No. 8 Anti junk fax check

When using the Anti junk fax function, set to "1".

SW-A6 No. 1 Reserved

Set to "0".

SW-A6 No. 2 End buzzer

Setting this bit to 0 will disable the end buzzer (including the error buzzer/ on-hook buzzer).

SW-A6 No. 3 Disconnect the line when DIS is received in RX mode

Bit1= 0: When DIS signal is received during RX mode, the line is disconnected immediately.

Bit1= 1: When DIS signal is received during RX mode, the line is disconnected on the next tone.

SW-A6 No. 4 Equalizer freeze control (MODEM)

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in an unfavorable state and picture cannot be received.

* Usually, the control is executed according to the state of line where the equalizer setting is changed always.

SW-A6 No. 5 Equalizer freeze control 7200BPS only

Setting which specifies SW-A6 No. 4 control only in the condition of 7200BPS modem speed.

SW-A6 No. 6 CNG transmission in manual TX mode

When set to "1", fax transmit the CNG signal in case of manual transmission mode (User press the START key after waiting for the fax answering signal from handset or speaker).

SW-A6 No. 7 Reserved

Set to "0".

SW-A6 No. 8 Modem speed automatic fallback when RX level is under -40dBm

When set to "1", if fax signal level is under -40dBm during reception, machine selects the slower modem speed automatically.
It is effective when noises occur on the received document due to the long distance communications.

SW-B1 No. 1 ~ No. 4 Recall interval

Choice is made for a redial interval for speed and rapid dial calls.
Use a binary number to program this. If set to 0 accidentally, 1 will be assumed.

SW-B1 No. 5 ~ No. 8 Recall times

Choice is made as to how many redials there should be.

SW-B2 No. 1 Dialing pause (sec/pause)

Pauses can be inserted between telephone numbers of direct dial connection. Selection of 4 sec or 2 sec pause is available.

SW-B2 No. 2 Dial tone detection (before auto dial)

Used to set YES/NO of dial tone detection in auto dialing.

SW-B2 No. 3 Reserved

Set to "0".

SW-B2 No. 4 Busy tone detection (after auto dial)

Used to set busy tone detection in auto dialing.

SW-B2 No. 5, No. 6 Waiting time after dialing

This is time waiting for the opponent's signals after dialing.

SW-B2 No. 7, No. 8 Reserved

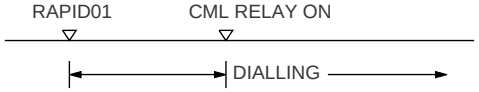
Set to "0".

SW-B3 No. 1 ~ No. 5 Reserved

Set to "0".

SW-B3 No. 6, No. 7 Auto dial mode delay timer of before line connect

Delay time between the dial key input and line connection under the auto dial mode.



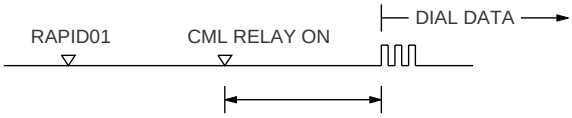
No.6	No.7	
0	0	0sec
0	1	1.5sec
1	0	3.0sec
1	1	4.5sec

SW-B3 No. 8 Hold key

Used to set YES/NO of holding function by the HOLD key.

SW-B4 No. 1, No. 2 Auto dial mode delay timer of after line connect

Delay time between the line connection and dial data output under the auto dial mode.



No.1	No.2	
0	0	1.7sec
0	1	3.0sec
1	0	3.6sec
1	1	4.0sec

SW-B4 No. 3 Dial mode

When using the pulse dial, set to 1. When using the tone dial, set to 0.

SW-B4 No. 4 Pulse → Tone change function by ✳ key

When setting to 1, the mode is changed by pressing the ✳ key from the pulse dial mode to the tone dial mode.

SW-B4 No. 5 Dial pulse make/break ratio (%)

When using the 33% make ratio pulse dial, set to "0".
When using the 40% make ratio pulse dial, set to "1".

SW-B4 No. 6, No. 7 Reserved

Set to "0".

SW-B4 No. 8 Recalling fixed only one time when dialing was unsuccessful without detecting busy tone signal

When dialing results in failure since the busy tone cannot be detected, recalling is fixed to one time.

Supplementary explanation
If time-out termination is made when dialing, only single recall is possible even if the setting time of recalls (SW-B1 No. 5 - No. 8) has been set to some times. This soft switch is added in order to meet FCC.

SW-B5 No. 1 ~ No. 5 DTMF signal transmission level (Low)

The dial signal of a push button telephone is called DTMF(dual-tone multi-frequency). These tones consist of two signals, one from a high group of frequencies and one from a low group of frequencies. Represent each of the push button telephone characters shown as below.

Low Frequency	High Frequency		
	1209Hz	1336Hz	1477Hz
697Hz	1	2	3
770Hz	4	5	6
852Hz	7	8	9
941Hz	✳	0	#

The transmission level of DTMF signal is adjusted. (lower frequency)

00000: 0dBm

↓

11111: -15.5dBm (-0.5dBm x 31)

SW-B5 No. 6 ~ No. 8 Reserved

Set to "0".

SW-B6 No. 1 ~ No. 5 DTMF signal transmission level (High)

The transmission level of DTMF signal is adjusted. (higher frequency)

00000: 0dBm

↓

11111: -15.5 dBm (-0.5dBm x 31)

SW-B6 No. 6 ~ No. 8 Reserved

Set to "0".

SW-C1 No. 1, No. 2 Reading slice (Binary)

Used to determine the set value of reading density in standard/fine mode. The standard setting is "00" (Factory setting is "00")

SW-C1 No. 3, No. 4 Reading slice (Half tone)

Used to determine the set value of reading density in half tone mode. The standard setting is "00" (Factory setting is "00")

SW-C1 No. 5 Line density selection

Used to set the transmission mode which is automatically selected when the Resolution key is not pressed. In the copy mode, however, the fine mode is automatically selected unless the Resolution key is manually set to another mode.

SW-C1 No. 6 Reserved

Set to "0".

SW-C1 No. 7 MTF correction in half tone mode

This allows selection of MTF correction (dimness correction) in the half tone mode.
When "NO" (=1) is selected, the whole image becomes soft and mild. Clearness of characters will be reduced. Normally set to "YES" (=0).

SW-C1 No. 8 Reserved

Set to "0".

SW-D1 No. 1 ~ No. 4 Number of rings for auto receive

When the machine is set in the auto receive mode, the number of rings before answering can be selected. It may be set from one to four rings using a binary number. Since the facsimile telephone could be used as an ordinary telephone if the handset is taken off the hook, it should be programmed to the user's choice. If the soft switch was set to 1, direct connection is made to the facsimile. If a facsimile calling beep was heard when the handset is taken off the hook, press the START key and put the handset on the hook to have the facsimile start receiving. If it was set to 0 accidentally, receive ring is set to 1.

NOTE: If the machine is set to answer after a large number of rings, it may not be able to receive faxes successfully. If you have difficulty receiving faxes, reduce the number of rings to a maximum of 6.

SW-D1 No. 5 Automatic switching manual to auto receive mode

This soft switch is used to select whether the machine should switch to the auto receive mode after 5 rings in the manual receive mode or remain in the same way as SW-D1 No. 1, No. 2, No. 3 and No. 4 "0"1"0"0"(5 rings).

SW-D1 No. 6 Reserved

Set to "0".

SW-D1 No. 7, No. 8 CI detect frequency

Detection frequency of ring signal for auto reception is set.
When set to No. 7=0, No. 8=0, frequency is set to PTT recommendation.
When set to No. 7=0, No. 8=1, frequency is set to 11.5Hz or more.
When set to No. 7=1, No. 8=0, frequency is set to 13.0Hz or more.
When set to No. 7=1, No. 8=1, frequency is set to 20.0Hz or more.

SW-D2 No. 1 ~ No. 3 Distinctive ringing setting (PATTERN 4 and 5 are for CANADA only)

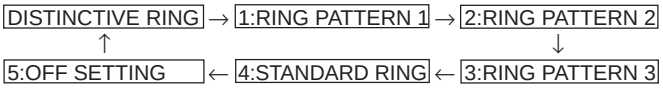
This function allows reception of services offered by USA and Canada telephone companies in which the customer contracts with the telephone company to have up to 4 telephone numbers (USA) or 6 telephone numbers (Canada) established for one line.
Each telephone number is signalled by a different ringing pattern, and the customer can allocate each number to a specific use.

<Example of use>

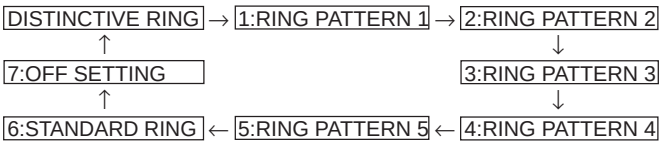
	Phone Number	Intended Purpose	Ring Pattern
Ring Pattern	555-1234	Voice Calls	Standard
	555-1235	Facsimile Calls	Pattern 1
	555-1236	Answering Machine	Pattern 2
	555-1237	PC Modem	Pattern 3

<Distinctive Ringing Timing Specifications>

1) USA



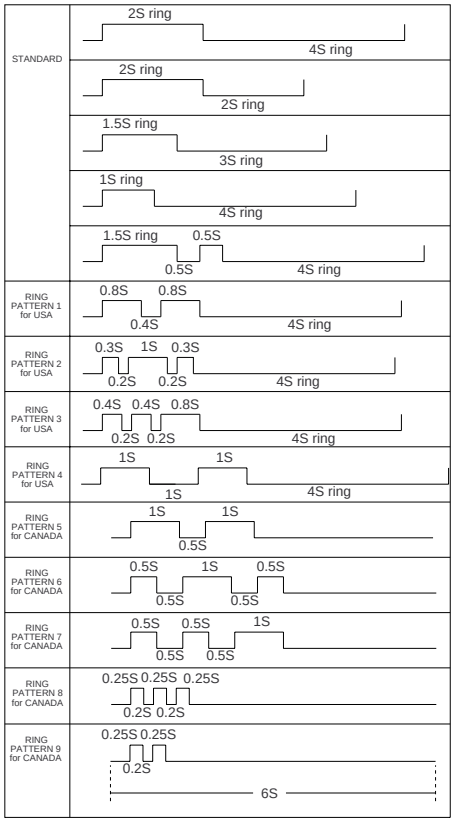
2) Canada



- Ring Pattern
  STANDARD has 5 ring patterns, and DISTINCTIVE has 9 patterns.
  Ring patterns ① ~ ④ for USA, and ⑤ ~ ⑨ for Canada.
  However, to make the setting procedure as easy as possible for the user to understand these patterns are grouped as follows:

<Optional Setting>

1) RING PATTERN 1	RING PATTERN ①	for USA
	RING PATTERN ④	for USA
	RING PATTERN ⑤	for Canada
2) RING PATTERN 2	RING PATTERN ②	for USA
	RING PATTERN ⑥	for Canada
3) RING PATTERN 3	RING PATTERN ③	for USA
	RING PATTERN ⑦	for Canada
4) RING PATTERN 4	RING PATTERN ⑧	for Canada
5) RING PATTERN 5	RING PATTERN ⑨	for Canada
6) STANDARD RING		
7) OFF SETTING		



SW-D2 No. 4 Reserved

Set to "0".

SW-D2 No. 5 Caller ID function

Used for Caller ID function.

SW-D2 No. 6 Caller ID detect during CI off

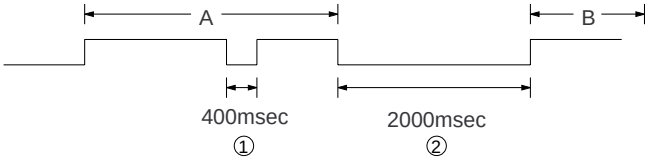
Detection of caller ID signal is performed as follows:
0:First CI OFF only
1:All of CI OFF

SW-D2 No. 7, No. 8 Reserved

Set to "0".

SW-D3 No. 1 ~ No. 5 CI off detection timer (0-1550ms setting by 50ms step)

Set the minimum time period of CI signal interruption which affords to be judged as a CI OFF section with 50ms steps.
(Example)



01110 (50ms ~ 14):
700ms (CI interruption>700ms:Judged as a CI OFF section)
The section 1 is not judged as a CI OFF section, the CI signal A is counted as one signal.
The section 2 is judged as a CI OFF section, the CI signal B is considered as the second signal.

00111 (50ms ~ 7):
350ms (CI interruption>350ms:Judged as a CI OFF section)
The section 1 is judged as a CI OFF section, and the CI signal A is counted as two signals.
The section 2 is judged as a CI OFF section, and the CI signal B is considered as the third signal.

SW-D3 No. 6 ~ No. 8 Reserved

Set to "0".

SW-E1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-E2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-E3 No. 1 ~ No. 8 Reserved

Set to "0".

SW-F1 No. 1, No. 2 DTMF detect time

Used to set detect time of DTMF (Dual Tone Multi Frequency) used in remote reception (5 ✳✳).

The longer the detect time is, the less the error detection is caused by noises.

SW-F1 No. 3 Protection of remote reception (5 ✳✳) detect

Used to set the function of remote reception (5 ✳✳). When set to "1", the remote reception function is disabled.

SW-F1 No. 4 Remote reception with GE telephone

(Corresponding to TEL mode by GE) P. B. X.

"1": Compatible with TEL mode by GE

"0": Not compatible

- When sending (5 ✳✳) for remote reception with a GE manufactured telephone remote reception may not take place because of special specifications in their DTMF.
  To overcome this, a soft SW is provided to change the modem setting to allow for remote reception.
- If this soft SW is set to "1", other telephone sets may be adversely affected.

SW-F1 No. 5 ~ No. 8 Remote operation code figure by external TEL (0 ~ 9)

Remote operation codes can be changed from 0 through 9. If set to greater than 9, it defaults to 9. The "5 ✳✳ " is not changed.
Ex-7 ✳✳ (Default: 5 ✳✳)

SW-F2 No. 1 CNG detection in STAND-BY mode

When setting to "1", the CNG signal detection function during stand-by stops.

SW-F2 No. 2, No. 3 Number of CNG detect (AM mode)

Used for detection of CNG in 1 to 4 pulses.

SW-F2 No. 4, No. 5 Number of CNG detect (STAND-BY mode)

Used for detection of CNG in 1 to 4 pulses.

SW-F2 No. 6 ~ No. 8 Reserved

Set to "0".

SW-G1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-G2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-G3 No. 1 ~ No. 6 Reserved

Set to "0".

SW-G3 No. 7 Choice after quiet detect

"0": The reception begins when no sound is detected in A.M. mode.
"1": The DIS signal is transmitted only once when no sound is detected in A.M. mode.

SW-G3 No. 8 Reserved

Set to "0".

SW-H1 No. 1, No. 2 Busy tone detection ON/OFF time (Lower duration)

The initial value of detection is set according to electric condition.
The set value is changed according to the local switch board.(Erroneous detection of sound is reduced.)
Normally the upper limit is set to 900msec,and the lower limit to 200msec.
If erroneous detection is caused by sound,etc.,adjust the detection range.
The lower limit can be set in the range of 350msec to 150msec.

SW-H1 No. 3, No. 4 Busy tone detection ON/OFF time (Upper duration)

Similarly to SW-H1 No.1,the set value can be varied.
The upper limit can be set in the range of 650msec to 2700msec.

SW-H1 No.1	SW-H1 No.2	SW-H1 No.3	SW-H1 No.4	Detection range
0	0	0	0	150msec ~ 650msec
0	0	0	1	150msec ~ 900msec
0	0	1	0	150msec ~ 1500msec
0	0	1	1	150msec ~ 2700msec
0	1	0	0	200msec ~ 650msec
0	1	0	1	200msec ~ 900msec
0	1	1	0	200msec ~ 1500msec
0	1	1	1	200msec ~ 2700msec
1	0	0	0	250msec ~ 650msec
1	0	0	1	250msec ~ 900msec
1	0	1	0	250msec ~ 1500msec
1	0	1	1	250msec ~ 2700msec
1	1	0	0	350msec ~ 650msec
1	1	0	1	350msec ~ 900msec
1	1	1	0	350msec ~ 1500msec
1	1	1	1	350msec ~ 2700msec

SW-H1 No. 5 Busy tone detect continuation sound detect during OGM

Used to detect the continuous tone of specific frequency during OGM output.

SW-H1 No. 6 Busy tone detect continuation sound detect

Used to select detection of the continuous sound of certain frequency.

SW-H1 No. 7 Busy tone detect intermittent sound detect during OGM

Used to detect the intermittent tone of specific frequency during OGM output.

SW-H1 No. 8 Busy tone detect intermittent sound detect

Used to select detection of the intermittent sound of certain frequency.

SW-H2 No. 1, No. 2 Busy tone detection pulse number

Used to set detection of Busy tone intermittent sounds.

SW-H2 No. 3 Fax switching when A.M. full

If the answering machine's memory (tape) is full and there is no response, the machine automatically switches to Fax reception.

SW-H2 No. 4 Busy tone detect continuation sound detect frequency

Set detecting frequency of busy tone continuation sound for 320 ~ 570 Hz of 320 ~ 460 Hz.

SW-H2 No. 5, No. 6 Reserved

Set to "0".

SW-H2 No. 7 AM OGM announce only mode

If this switch is set to 1, the machine will not record ICM.
(disconnect the line after OGM output)

SW-H2 No. 8 Busy tone continuous sound detect time

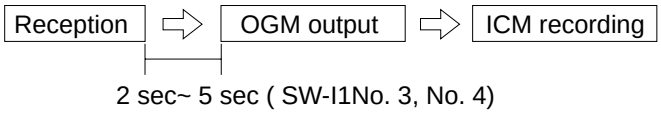
Set detecting time busy tone continuous sound for 5 or 10 seconds.

SW-I1 No. 1, No. 2 ICM recording time

Used to select the incoming message recording time to 15sec/30sec/60sec/4min.

SW-I1 No. 3, No. 4 A.M. quiet time 1

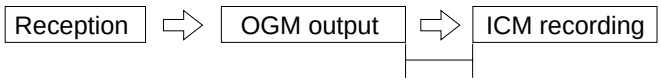
Used to select four kinds of no sound time (2 sec ~ 5 sec) after reception in the T.A.D mode until OGM is output.



2 sec~ 5 sec (SW-I1No. 3, No. 4)

SW-I1 No. 5, No. 6 A.M. quiet time 2

Used to select four kinds of no sound time (0 sec ~ 3 sec) after OGM output the T.A.D mode until ICM recording is started.



0 sec~3 sec (SW-I1 No. 5, No. 6)

SW-I1 No. 7 Key input buzzer on/off switch (Two way recording mode)

Used to turn ON/OFF key input buzzer in the TWO-WAY recording mode.

SW-I1 No. 8 CPC signal detection

Used to turn ON/OFF the CPC (Calling Party Control) signal detection.

SW-I2 No. 1 ~ No. 5 A.M. quiet detect time

Used to set no sound time (0 sec ~ 32 sec) during the T.A.D. mode operation.

SW-I2 No. 6 ~ No. 8 CPC detection time

Used to set the CPC (Calling Party Control) signal detect time.

SW-I3 No. 1 Reserved

Set to "0".

SW-I3 No. 2 Max OGM record time

Used select the outgoing message recording time to 60sec or 15sec.

SW-I3 No. 3 Two way record function

If this switch is set to "1", the machine disables two way recording.

SW-I3 No. 4 Toll saver

Used to turn on the toll saver function. If it is off, the reception frequency in the AM mode is the same as in the FAX mode.

SW-I3 No. 5 ~ No. 7 Reserved

Set to "0".

SW-I3 No. 8 Transfer dial recall

If this switch is set to "1", machine disables redial in Transfer function.

SW-I4 No. 1 ~ No. 4 AGC maximum gain (Line)
(10 ~ 25dB) (1dB step)

The AGC Maximum Gain limits the gain applied by the AGC. Messages with average energy below the AGC Energy Reference Level will have their average energy level increased by no more than the AGC Maximum Gain. The AGC Maximum Gain should average energy of the message with the lowest average energy to the AGC Energy Reference Level.

SW-I4 No. 5 ~ No. 8 AGC maximum gain (Mic)
(10 ~ 25dB) (1dB step)

The AGC Maximum Gain limits the gain applied by the AGC. Messages with average energy below the AGC Energy Reference Level will have their average energy level increased by no more than the AGC Maximum Gain. The AGC Maximum Gain should average energy of the message with the lowest average energy to the AGC Energy Reference Level.

SW-I5 No. 1 ~ No. 4 AGC energy reference level access code (Line)
(-0 ~ -30dB) (2dB step)

The AGC Energy Reference Level controls the playback level. Any message having average speech energy above the energy reference level has its playback level attenuated, and any level has its playback level increased. If the playback level is too high (low), then decreasing (increasing) the AGC Energy Reference Level will achieve the desired level.

SW-I5 No. 5 ~ No. 8 AGC energy reference level access code (Mic)
(-0 ~ -30dB) (2dB step)

The AGC Energy Reference Level controls the playback level. Any message having average speech energy above the energy reference level has its playback level attenuated, and any level has its playback level increased. If the playback level is too high (low), then decreasing (increasing) the AGC Energy Reference Level will achieve the desired level.

SW-I6 No. 1 ~ No. 4 AGC gain adaptation threshold (Line)

The AGC adjusts the amount of gain applied to the incoming message only when the average energy exceeds the AGC Gain Adaptation Threshold. The AGC Gain Adaptation Threshold prevents message background noise from corrupting the gain provided that the AGC Gain Adaptation Threshold is greater than the background noise energy. In the event that a message has background noise energy greater than the AGC Gain Adaptation Threshold, the AGC Gain can be no greater than the AGC Maximum Gain. Note that the AGC Gain Adaptation Threshold must always be greater than the RPACS VOX Turn-On Threshold.

SW-I6 No. 5 ~ No. 8 AGC gain adaptation threshold (Mic)

The AGC adjusts the amount of gain applied to the incoming message only when the average energy exceeds the AGC Gain Adaptation Threshold. The AGC Gain Adaptation Threshold prevents message background noise from corrupting the gain provided that the AGC Gain Adaptation Threshold is greater than the background noise energy. In the event that a message has background noise energy greater than the AGC Gain Adaptation Threshold, the AGC Gain can be no greater than the AGC Maximum Gain. Note that the AGC Gain Adaptation Threshold must always be greater than the RPACS VOX Turn-On Threshold.

SW-I7 No. 1, No. 2 AGC slew rate (Line)

The AGC Slew Rate controls the convergence of the message playback level to the desired playback level. A large slew rate will allow faster convergence and a small slew rate will allow slower convergence.

SW-I7 No. 3, No. 4 AGC slew rate (Mic)

The AGC Slew Rate controls the convergence of the message playback level to the desired playback level. A large slew rate will allow faster convergence and a small slew rate will allow slower convergence.

SW-I7 No. 5 ~ No. 8 Reserved

Set to "0".

SW-J1 No. 1 Activity report print

This soft switch is used to select: whether or not to print out the activity report when the memory is full. An activity report can be printed when the following key entry command is made.

"FUNCTION ", "▼", "▶", "▶"

After producing the activity report, all the data in the memory will be cleared.
When the switch function is set to "0" (no), the data in the memory will be deleted from the oldest as it reaches the maximum memory capacity.

SW-J1 No. 2 Total communication hours and pages print

Used to make a choice of whether the total communication time and pages are recorded in the activity report.

SW-J1 No. 3 Sender's phone number setting

Used to make a choice of whether the registered sender's phone number can be changed or not. If the switch is set to "1", new registration of the sender's phone number is disabled to prevent accidental wrong input.

SW-J1 No. 4, No. 5 Reserved

Set to "0".

SW-J1 No. 6 Summer time setting

This is used to set YES/NO of automatic clock adjustment for European Summer time.

SW-J1 No. 7, No. 8 Ringer volume

Used to adjust ringing volume.

SW-J2 No. 1, No. 2 Reserved

Set to "0".

SW-J2 No. 3 Polling key

If this switch is set to 1, the last of Rapid key works as polling key.

SW-J2 No. 4, No. 5 Handset receiver volume

Used to adjust sound volume from a handset receiver volume.

SW-J2 No. 6 ~ No. 8 Speaker volume (5 stages)

Used to adjust sound volume from a speaker.

SW-J3 No. 1 Reserved

Set to "0".

SW-J3 No. 2 ~ No. 4 Communication result printout (Transaction report)

Every communication, the result can be output. As usual, it is set to print the timer sending communication error alone. If No. 2: 0 No. 3: 1 No. 4: 0 are set, printing is always on (printed even if it is normally ended).

000: Error, timer and memory sending/receiving

001: Sending

010: Continuous printing

011: Not printed

100: Communication error

SW-J3 No. 5 ~ No. 8 OGM/ICM output level to speaker (0dB ~ -15dB) (1dB step)

Used to control OGM and ICM output level to speaker.

SW-K1 No.1, No. 2 Reserved

Set to "0".

SW-K1 No. 3 ~ No. 8 OGM/ICM output level to Line (0dB ~ -32dB) (1dB step)

Used to control OGM and ICM output level to Line.

SW-L1 No. 1 ~ No. 4 Reserved

Set to "0".

SW-L1 No. 5 Cut off mode (COPY mode)

Whether the excessive part is printed on the next recording paper or discarded is selected to copy a document which is longer than the recording paper.

SW-L1 No. 6 A4 Paper enable

The use of recording paper of A4 is enabled.

SW-L1 No. 7 LEGAL and LETTER paper enable

The use of recording paper of LEGAL and LETTER is enabled.

SW-L1 No. 8 Reserved

Set to "0".

SW-L2 No. 1, No. 2 Paper set size

At present size of the recording paper.

SW-L2 No. 3 Automatic reduce of receive

If set to 1, it is reduced automatically when receiving.

SW-L2 No. 4 ~ No. 8 Reserved

Set to "0".

SW-M1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-M2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-N1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-N2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-N3 No. 1 ~ No. 8 Reserved

Set to "0".

SW-O1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-O2 No. 1 ~ No. 8 Reserved

Set to "0".

SW-O3 No. 1 ~ No. 8 Reserved

Set to "0".

SW-O4 No. 1 ~ No. 8 Reserved

Set to "0".

SW-O5 No. 1 ~ No. 8 Reserved

Set to "0".

SW-O6 No. 1 ~ No. 8 Reserved

Set to "0".

SW-P1 No. 1 ~ No. 8 Reserved

Set to "0".

SW-P2 No. 1 Reserved

Set to "1".

SW-P2 No. 2, No. 3 Reserved
Set to "0".

SW-P2 No. 4, No. 5 Reserved
Set to "1".

SW-P2 No. 6, No. 7 Reserved
Set to "0".

SW-P2 No. 8 Reserved
Set to "1".

SW-P3 No. 1 Reserved
Set to "1".

SW-P3 No. 2 Reserved
Set to "0".

SW-P3 No. 3 Reserved
Set to "1".

SW-P3 No. 4 ~ No. 6 Reserved
Set to "0".

SW-P3 No. 7 Reserved
Set to "1".

SW-P3 No. 8 Reserved
Set to "0".

SW-P4 No. 1 Reserved
Set to "0".

SW-P4 No. 2 Reserved
Set to "1".

SW-P4 No. 3 Reserved
Set to "0".

SW-P4 No. 4 ~ No. 7 Reserved
Set to "1".

SW-P4 No. 8 Reserved
Set to "0".

SW-P5 No. 1 Reserved
Set to "1".

SW-P5 No. 2 Reserved
Set to "0".

SW-P5 No. 3 Reserved
Set to "1".

SW-P5 No. 4 ~ No. 6 Reserved
Set to "0".

SW-P5 No. 7 Reserved
Set to "1".

SW-P5 No. 8 Reserved
Set to "0".

SW-P6 No. 1 Ink save mode
If set to "1", printing is done with half of ink.

SW-P6 No. 2 ~ No. 8 Reserved
Set to "0.

SW-P7 No. 1 ~ No. 8 Reserved
Set to "0".

[3] Troubleshooting

Refer to the following actions to troubleshoot any of the problems mentioned in 1-4.

[1] A communication error occurs.

[2] Image distortion produced.

[3] Unable to do overseas communication.

[4] Communication speed slow due to FALLBACK.

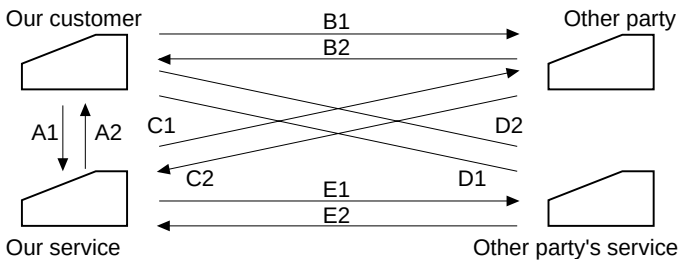
- Increase the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [1] [2] [3].
- Decrease the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [3].
- Apply line equalization SOFT SWITCH A5-1, 2. May be used in case [1] [2] [3] [4].
- Slow down the transmission speed SOFT SWITCH A2-1, 2, 3, 4. May be used in case [2] [3].
- Replace the TEL/LIU PWB. May be used in all cases.
- Replace the control PWB. May be used in all cases.

* If transmission problems still exist on the machine, use the following format and check the related matters.

TO: ATT: Ref.No. :
CC: ATT: Date :
FM: Dept :
Sign :

***** Facsimile communication problem *****			Ref.No.:
From: Mr.	Fax Tel No.:		Date:
Our customer	Name		Tel No.
	Address		Fax No.
	Contact person		Model name
Other party	Name		Tel No.
	Address		Fax No.
	Contact person		Model name
Problem mode	Line: Domestic / international	Model: G3	Phase: A, B, C, D.
	Reception / Transmission	Automatic reception / Manual reception	
		Automatic dialing / Manual dialing / Others	
Frequency:	%	ROM version:	

Confirmation item



Please mark problem with an X.
No problem is: 0.

A1	A2	B1	B2	C1	C2	D1	D2	E1	E2

Transmission level setting is ( ) dB at our customer

Transmission level ( ) dBm
Reception level ( ) dBm
By level meter at B1 and B2

Comment

Countermeasure

**** Please attach the G3 data and activity report on problem. ****

* Please complete this report before calling the “TAC” hotline if problem still occurs.

[4] Error code table

1. Communication error code table

G3 Transmission

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSF, DIS	Cannot recognize DCS signal by echo etc. Cannot recognize NSS signal (FIF code etc)
2	CFR	Disconnects line during reception (carrier missing etc)
3	FTT	Disconnects line by fall back
4	MCF	Disconnects line during reception of multi page Cannot recognize NSS, DCS signal in the case of mode change
5	PIP or PIN	The line is hung up without replying to telephone request from the receiving party.
6	RTN or RTP	Cannot recognize NSS, DCS signal after transmit RTN or RTP signal.
7	No signal or DCN	No response in receiver side or DCN signal received* (transmitter side)
8	–	Owing to error in some page the error could not be corrected although the specified number of error retransmissions were attempted.
11	–	Error occurred after or while reception by the remote (receiving) machine was revealed to be impossible.
12	–	Error occurred just after fallback.
13	–	Error occurred after a response to retransmission end command was received.

G3 Reception

Code	Final received signal	Error Condition (Receiver side)
0	Incomplete signal frame	Cannot recognize bit stream after flag
1	NSS, DCS	Cannot recognize CFR or FTT signal Disconnects line during transmission (line error)
2	NSC, DTC	Cannot recognize NSS signal (FIF code etc)
3	EOP	Cannot recognize MCF, PIP, PIN, RTN, RTP signal
4	EOM	Cannot recognize MCF, PIP, PIN, RTN, RTP signal in the case of mode change
5	MPS	The line is hung up without replying to communication request.
6	PR1-Q	Cannot recognize PIP, PIN signal in the case of TALK request
7	No signal or DCN	No response in transmitter (cannot recognize DIS signal) or DCN signal received* (receiver side)
8	–	Error occurred upon completion of reception of all pages.
9	–	Error occurred when mode was changed or Transmission/Reception switching was performed.
10	–	Error occurred during partial page or physical page reception.
11	–	Error occurred after or during inquiry from the remote (transmitting) machine as to whether reception is possible or not.
12	–	Error occurred during or just after fallback.
13	–	Error occurred after the retransmission end command was received.

CHAPTER 3. MECHANISM BLOCKS

[1] General description

1. Document feed block and diagram

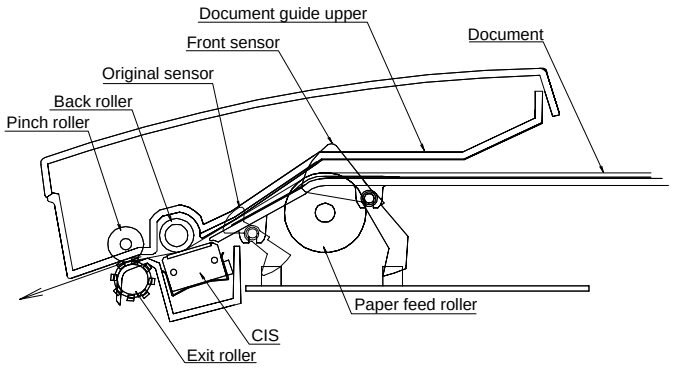


Fig. 1

2. Document feed operation

1) The original, which is set in the document hopper, feeds automatically when the front sensor is activated. This in turn activates the drive motor which drives the paper feed roller. The document stops when the lead edge is detected by the original sensor.
2) The lead edge of the original is fed a specified number of pulses after the lead edge of the document is detected for the reading process to begin.
3) The trailing edge of the original is fed a specific number of pulses after the trailing edge of the document deactivates the original sensor. The read process then stops and the original is discharged.
4) When the front sensor is in the OFF state (any document is not set up in the hopper guide), the drive will be stopped when the document is discharged.

3. Hopper mechanism

3-1. General view

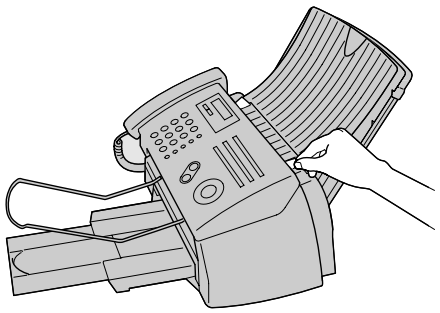


Fig. 2

The hopper section contains document guides that are used to adjust the hopper to the width of the original document. This ensures that the original feeds straight into the fax machine for scanning.
Document width: 148 mm to 216 mm (A5 longitudinal size to Letter longitudinal size)
NOTE: Adjust the document guide after setting up the document.

3-2. Automatic document feed

1) Use of the paper feed roller and separate plate ensures error-free transport and separation of documents. The plate spring presses the document to the paper feed roller to assure smooth feeding of the document.
2) Document separation method: Separate plate

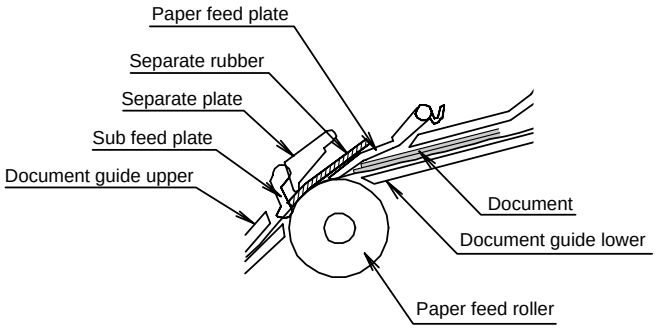


Fig. 3

3-3. Documents applicable for automatic feed

	20 sheets	1sheet(Manual)
Paper weight	70 kg 21.5 lbs. (80 g/m^2)	70 kg ~ 135 kg 14 lbs. ~ 42 lbs. (52 g/m^2 ~ 157g/m^2)
Paper thickness (ref.)	0.1 mm	0.1 mm ~ 0.18mm
Paper size	LGL (216 mm x 355.6 mm) A4 (210 mm x 297 mm) LTR (216 mm x 279 mm)	
Feeder capacity	A4/LTR: 20 sheets LGL : 5 sheet	

NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually. The document feed quantity may be changed according to the document thickness.

Documents corresponding to a paper weight heavier than 70 kg (81.4g/m^2) and lighter than 135 kg (157 g/m^2) are acceptable for manual feed.

Documents heavier than 135 kg in terms of the paper weight must be duplicated on a copier to make it operative in the facsimile.

3-4. Loading the documents

1) Make sure that the documents are of suitable size and thickness, and free from creases, folds, curls, wet glue, wet ink, clips, staples and pins.
2) Place documents face down in the hopper.
   i) Adjust the document guides to the document size.
   ii) Align the top edge of documents and gently place them into the hopper. The first page under the stack will be taken up by the feed roller to get ready for transmission.

NOTES: 1) Curled edge of documents, if any, must be straightened out.
2) Do not load the documents of different sizes and/or thicknesses together.

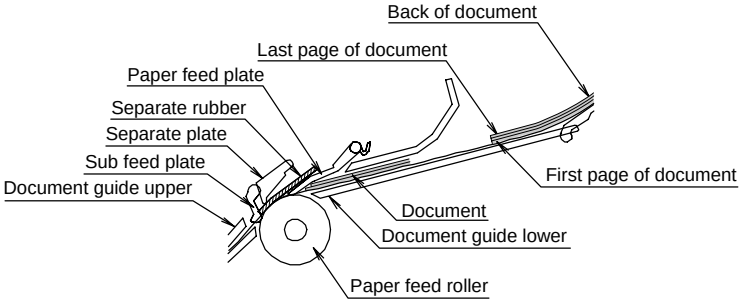


Fig. 4

3-5. Documents requiring use of document carrier

1) Documents smaller than 148mm (W) x 140mm (L).
2) Documents thinner than the thickness of 0.06mm.
3) Documents containing creases, folds, or curls, especially those whose surface is curled (maximum allowable curl is 5mm).
4) Documents containing tears.
5) Carbon-backed documents. (Insert a white sheet of paper between the carbon back and the document carrier to avoid transfer of carbon to the carrier.)
6) Documents containing an easily separable writing material (e.g., those written with a lead pencil).
7) Transparent documents.
8) Folded or glued documents.

Document in document carrier should be inserted manually into the feeder.

4. Document release

4-1. General

To correct a jammed document or to clean the document running surface, pull the insertion side of document center of the operation panel. To open the upper document guide, the operation panel must be opened first.

5. Recording block

1) The pulse motor is rotated by the PICK UP ROLLER to feed the recording sheet. The SEPARATE RUBBER feeds one by one from the top sheet.

2) The recording sheet contacts the P-IN SENSOR.

3) The FEED ROLLER rotates in the reverse direction of paper feed (refer to the figure of PICK UP ROLLER). The tip of recording sheet is set parallel to the FEED ROLLER when it reaches to the FEED ROLLER and the PRESS ROLLER after through the PICK UP ROLLER.

4) Then the FEED ROLLER rotates in the paper feed direction to feed the recording sheet downwards. (refer to the figure of PAPER FEED)

5) The CARTRIDGE prints the recording sheet, which is then ejected by the EXIT ROLLER and STAR WHEEL.

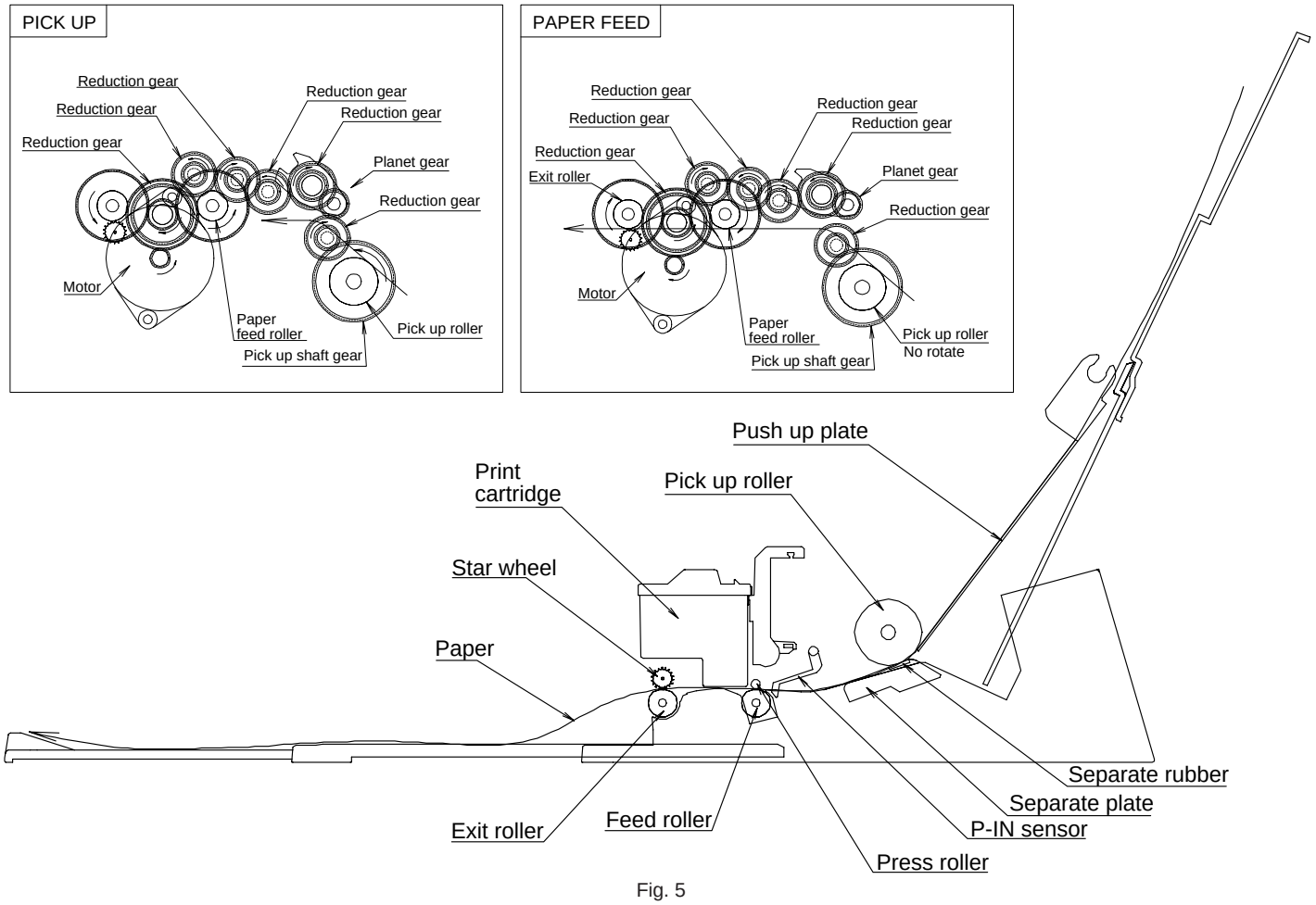


Fig. 5

[2] Ink jet printer

1. Engine specifications

1) Mechanism

Resolution: 600dpi x 600dpi addressability
Print speed: 4PPM text with black cartridge
Print swath: 8 inches
Duty cycle: 250 pages per month average
Dimensions: 330mm x 100mm x 130mm
Weight: 1.98punds(900g)(1p=453g)
Acoustics: 50db in letter quality mode

2) Electrical

No electrical hardware included with the type B engine except for the carrier drive stepping motor, the Sensor FPC assembly which includes a photo interrupter for sensing home position,the carrier cables, and the printhead cable.

2. Abbreviations

EOF	End-of Form
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
HVPS	High Voltage Power Supply
LVPS	Low Voltage Power Supply
OEM	Original Equipment Manufacturer
POST	Power-On Self Test
V ac	Volts alternating current
V dc	Volts direct current
ZIF	Zero Insertion Force

3. Diagnostic information

1) Print Cartridge

Black Print Cartridge 208 Nozzles
Pigment based(Water proof)
initial cartridge
Approx.yield 300 letter pages at 4%coverage
Replacement cartridge:SHARP UX-C70B
Approx.yield 600 letter pages at 4%coverage
* When Ink Save mode is enabled.

2) Start

Power-OnSelf Test (POST) Sequence

When you turn the printer on it performs a POST. Turn the machine on and check for a correct POST operation by observing the following:

1. The carrier moves.
2. The paper feed gears turn.
3. After 30 seconds the carrier moves over the maintenance station and caps the printhead.
4. All motors stop.

4. Circuit description

1) General description

The compact design of INK PWB is obtained by using Head Driver IC and Home position Sensor.

2) Electrical System

The PWB provides mechanical control for Ink Jet Printer.
Fig. 1 shows the interconnection of PWB and other electrical component in the print mechanism.

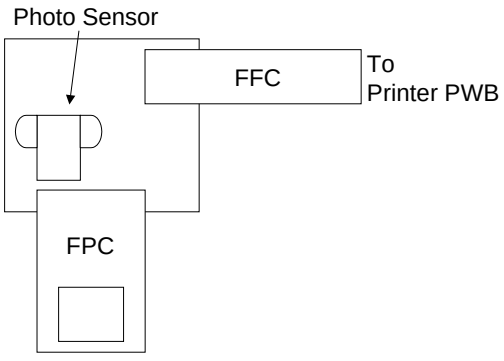


Fig. 1

3) Electrical Overview

The information in this section appears in a sequence relative to the system diagram in the following figure.

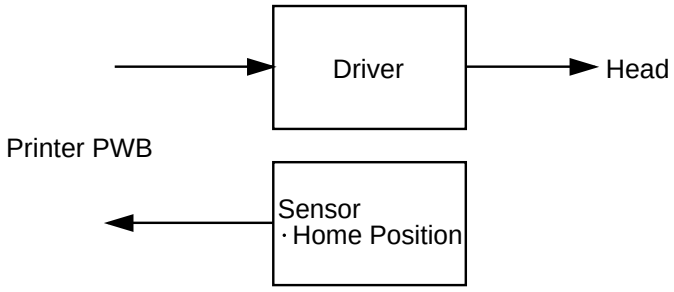


Fig. 2

4) Power Supply Connector

The mechanism requires two voltages (+3.3V, +11.82V and +24V). These three voltages supplied from CNHEAD connector.

5) Host interface connector

FFC on the INK PWB provides 23 lines from the host unit, for control of various operating options available to the host.
The two primary functions of the host interface are:
Printing data for the Ink Jet Printer
Error status to the host

6) Driver IC

One driver IC drive 208 (MONO) nozzles on the cartridge.
This driver IC, located on the INK PWB, also connected back to the ASIC, on Printer PWB.

7) INK Cartridge Carriage

The carriage connects via a FPC on the INK PWB.
The ink cartridge contacts connect to the carriage contacts.
The ASIC controls the carriage and ink cartridge.

8) Home Position

Measure the position of the carrier unit by reading the scale of the encoder (① in the figure) with the photo sensor (② in the figure). When power is supplied, the carrier unit moves right until it contacts the dead-end of the right main frame (③ in the figure). We call this home position and hereinafter, regard as the starting point to measure the position of the carrier unit by reading the scale of the encoder with the photo sensor. The home position shall be applied to all operations.

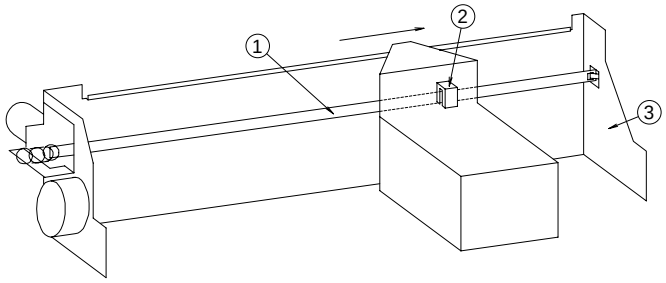
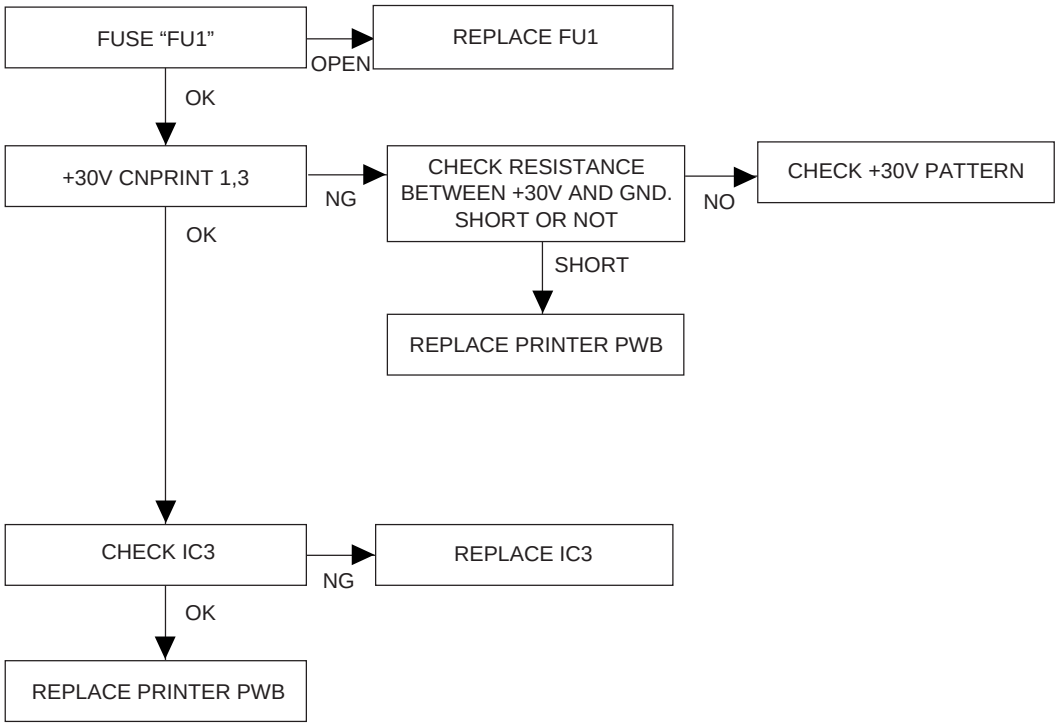


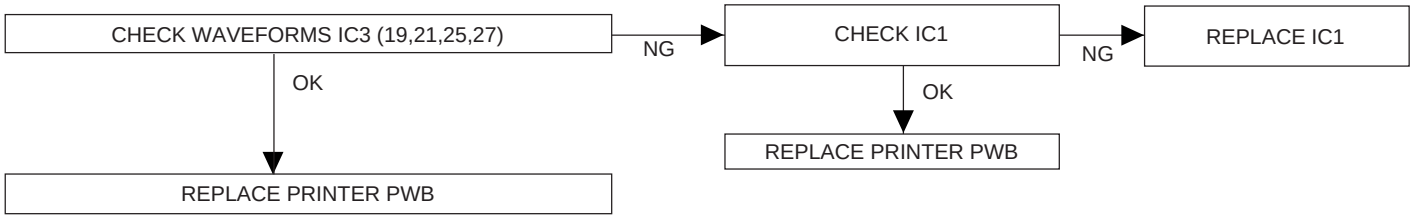
Fig. 3

5. Overall troubleshooting of Printer

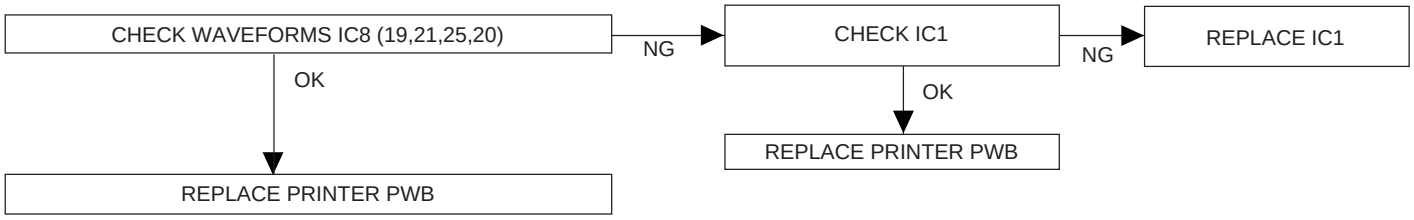
• BOTH CARRIAGE MOTOR AND FEED MOTOR ARE NG.



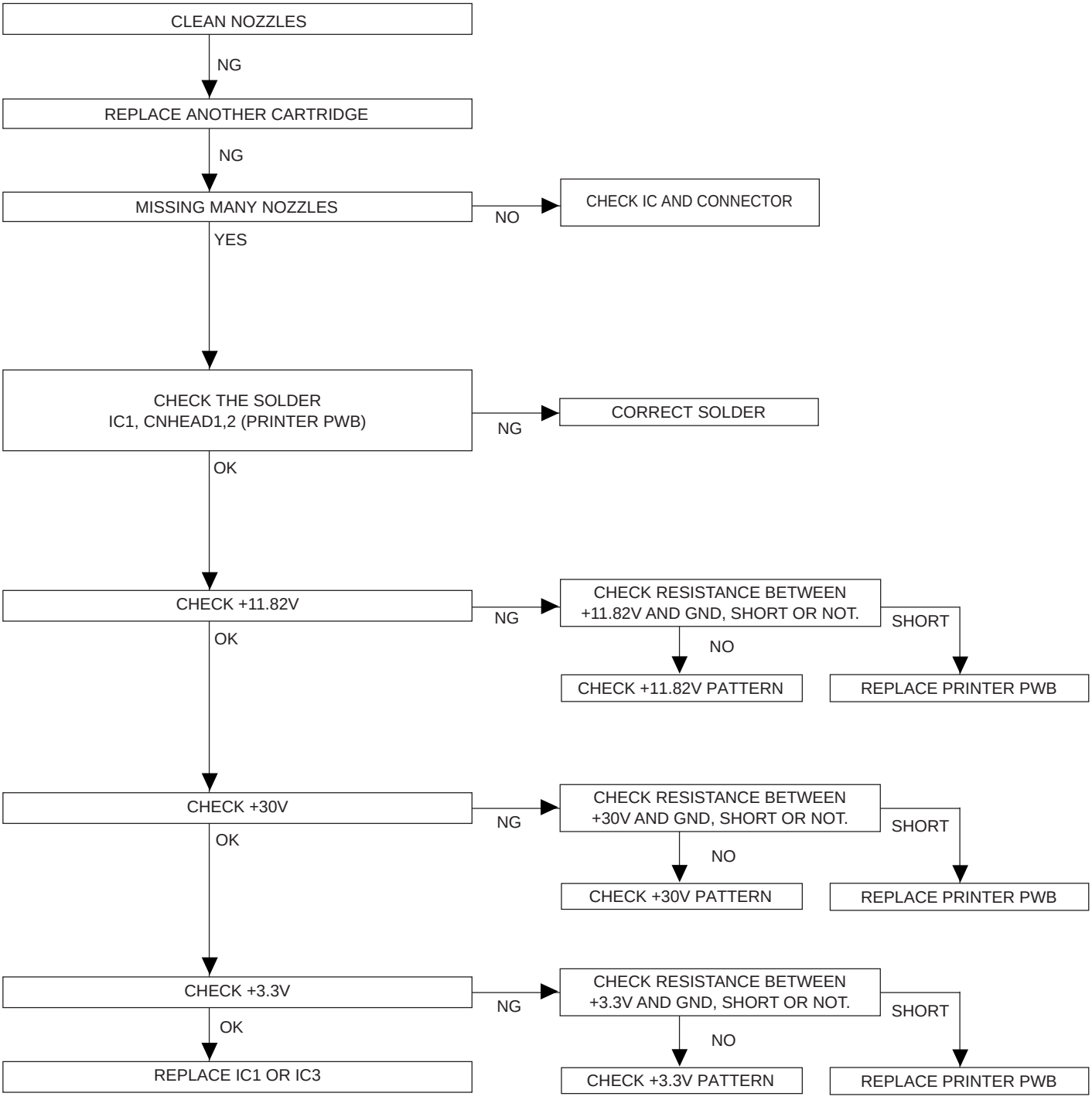
• FEED MOTOR IS NG (CARRIAGE MOTOR IS GOOD)



• CARRIAGE MOTOR IS NG (FEED MOTOR IS GOOD)



• MISSING NOZZLES (RESULT OF CHECK PATTERN OR CLEAN NOZZLES)



[3] Disassembly and assembly procedures

- This chapter mainly describes the disassembly procedures. For the assembly procedures, reverse the disassembly procedures.
- Easy and simple disassembly/assembly procedures of some parts and units are omitted. For disassembly and assembly of such parts and units, refer to the Parts List.
- The numbers in the illustration and the parts list in a same section are common to each other.
- To assure reliability of the product, the disassembly and the assembly procedures should be performed carefully and deliberately.

1 Back cover, Paper hopper unit

Parts list (Fig. 1)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (3×12)	2	7	RP release gear, left	1
2	Back cover	1	8	RP release gear, right	1
3	Screw (3×10)	2	9	RP release plate	1
4	Paper hopper unit	1	10	Rotation plate	1
5	Screw (3×6)	2	11	Coil spring	2
6	RP release spring	1	12	Paper hopper	1
			13	Screw	1

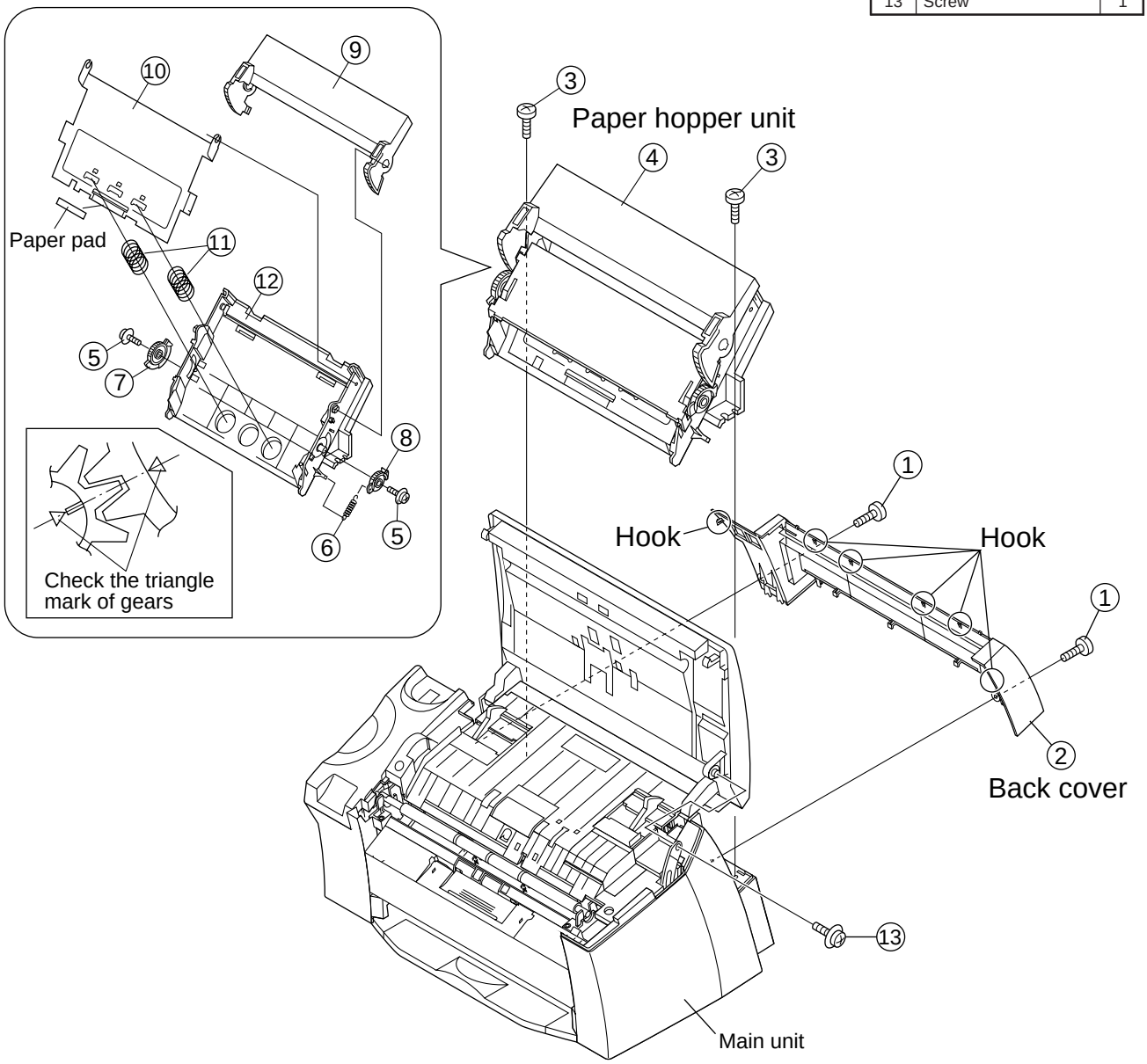


Fig. 1

2 Document guide lower unit

Parts list (Fig. 2)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (3×12)	3	10	ORG sensor lever	1
2	Document guide lower unit	1	11	ORG Sensor lever release spring	1
3	Connector cover	1	12	Paper feed gear unit	1
4	Earth sheet (2pcs.)	1	13	Paper feed roller unit	1
5	Document under sheet	2	14	Screw (3×6)	1
6	Hook switch lever	1	15	Hopper spring	1
7	Hook switch lever spring	1	16	Pinion gear	1
8	Front sensor lever	1	17	Hopper guide	2
9	Front Sensor lever release spring	1			

Caution:
The CONNECTOR COVER can be opened easily by inserting a thin head jig such as a metal stick.

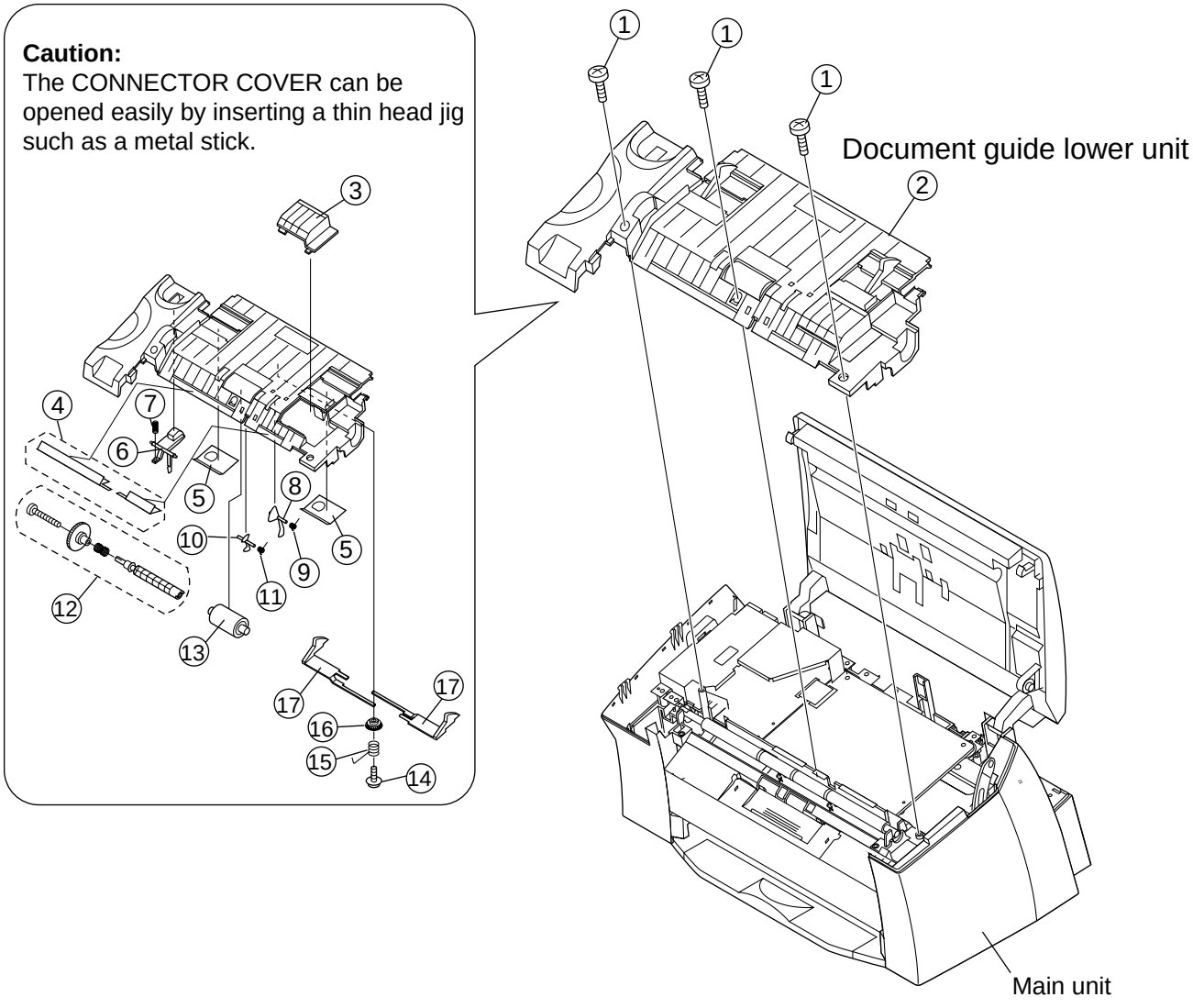


Fig. 2

3 Operation panel unit, Control PWB unit, TEL/LIU PWB unit

NOTE: For disassembly of the inside of the unit, refer to the exploded view in the parts guide.

Parts list (Fig. 3)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (3×10)	1	12	Sub feed spring	2
2	Operation panel unit/ Document guide upper	1	13	Sub feed plate, left	1
			14	Sub feed plate, right	1
3	Screw (3×10)	3	15	Paper feed spring	1
4	Document guide upper	1	16	Paper feed plate	2
5	Pinch pressure spring	2	17	Screw (3×10)	2
6	Pinch roller	2	18	LIU upper plate	1
7	Separate spring	1	19	Screw (3×6)	4
8	Separate plate	1	20	Cable	5
9	Separate cushion	1	21	Connector	1
10	Separate sheet	1	22	Control PWB unit	1
11	Separate rubber	1	23	TEL/LIU PWB unit	1

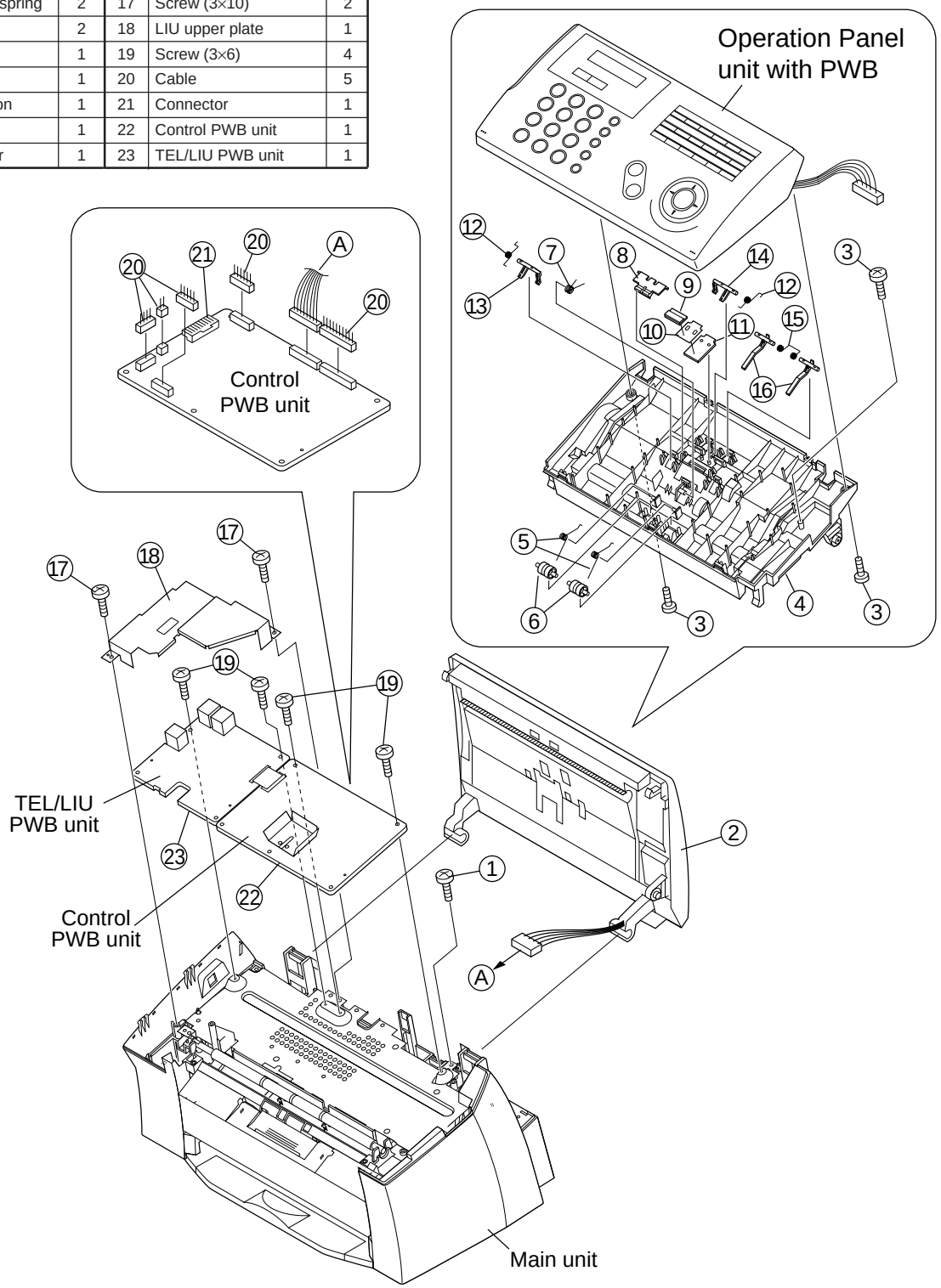


Fig. 3

4	PWB installation plate, Front cover, Upper cabinet unit

NOTE: For disassembly of the inside of the unit, refer to the exploded view in the parts guide.

Parts list (Fig. 4)

No.	Part name	Q'ty
1	Screw (3×8)	2
2	Screw (3×10)	3
3	PWB installation plate	1
4	Front cover	1
5	Screw (3×10)	4
6	Screw (3×6)	1
7	Upper cabinet unit	1

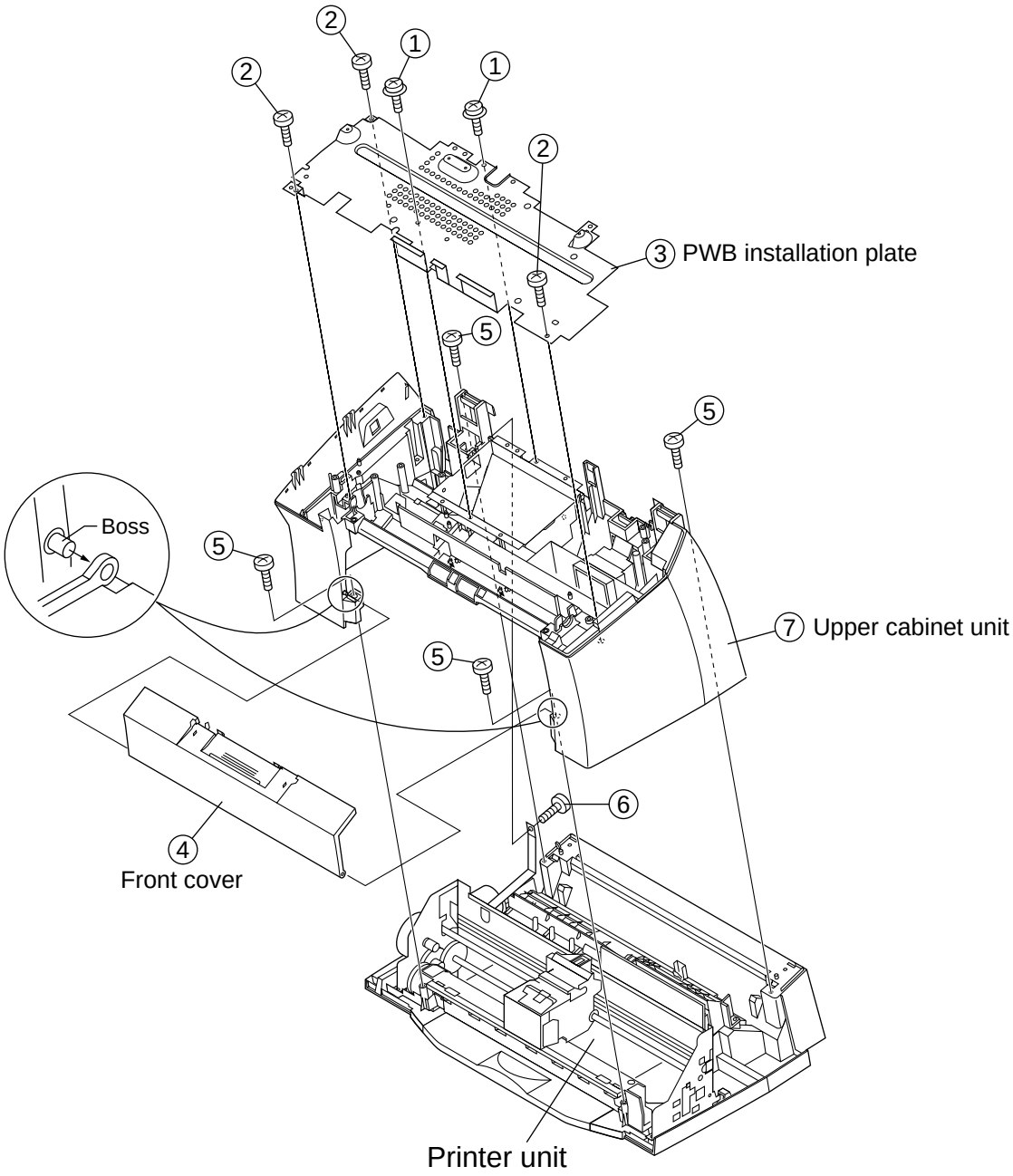


Fig. 4

5	**Upper cabinet**

NOTE: For disassembly of the inside of the unit, refer to the exploded view in the parts guide.

Parts list (Fig. 5)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Speaker hold spring	1	10	Reduction gear 15/22Z	1
2	Speaker ass'y	1	11	Document exit gear	1
3	Screw (3×6)	2	12	Exit roller ass'y	1
4	Screw (4×6)	1	13	Back gear	1
5	AC cord ass'y	1	14	Back bearing	2
6	Power supply PWB unit	1	15	Back roller	1
7	Screw (3×10)	1	16	CIS unit	1
8	Drive unit	1	17	CIS spring	2
9	Reduction gear 21/38Z	1			

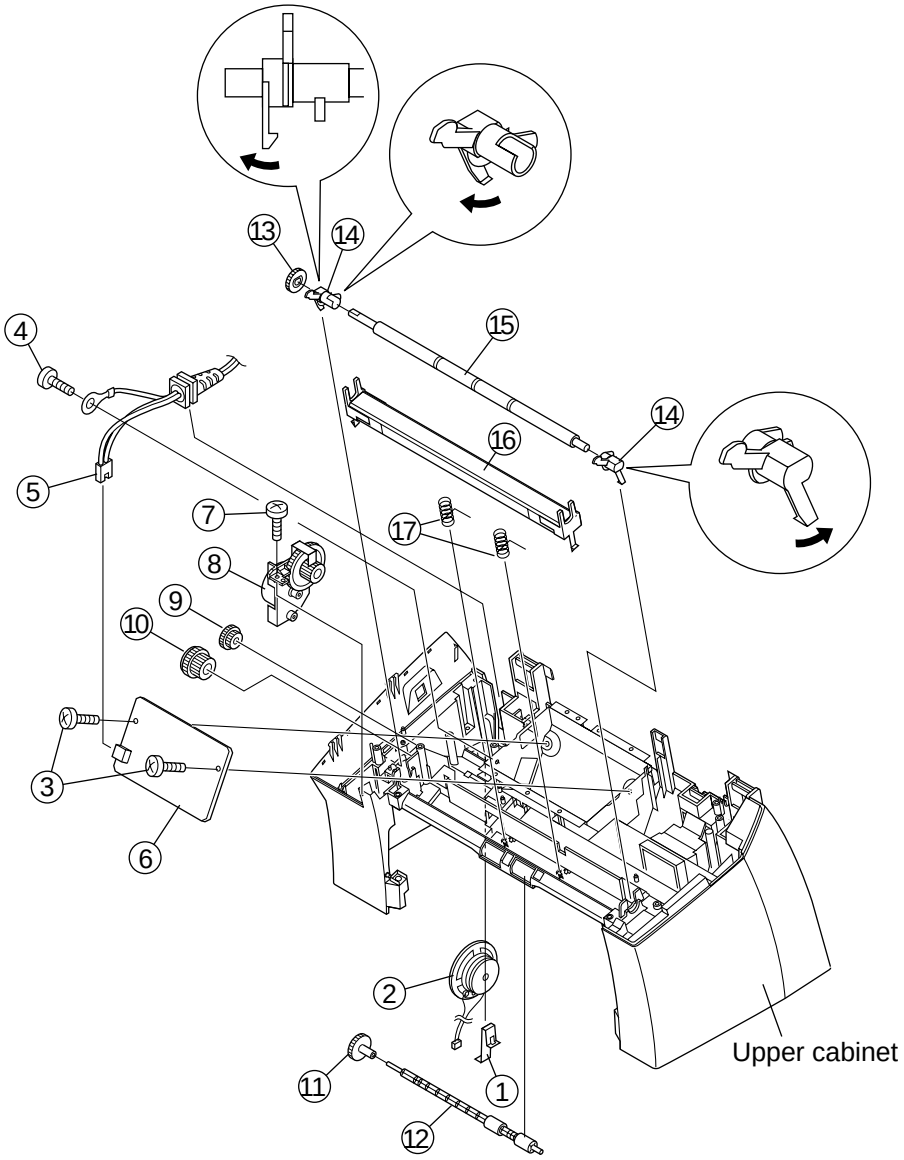


Fig. 5

6 Printer unit, Bottom cabinet

NOTE: For disassembly of the inside of the unit, refer to the exploded view in the parts guide.

Parts list (Fig. 6)

No.	Part name	Q'ty	No.	Part name	Q'ty
1	Screw (3×10)	2	8	Printer unit	1
2	Pick up holder unit	1	9	Separate plate	1
3	CRMT cable	1	10	Separate spring	1
4	FDMT cable	1	11	Bottom cabinet	1
5	Screw (3×6)	2	12	Exit tray/ Extension exit tray	1
6	Printer PWB unit	1			
7	Screw (3×10)	2			

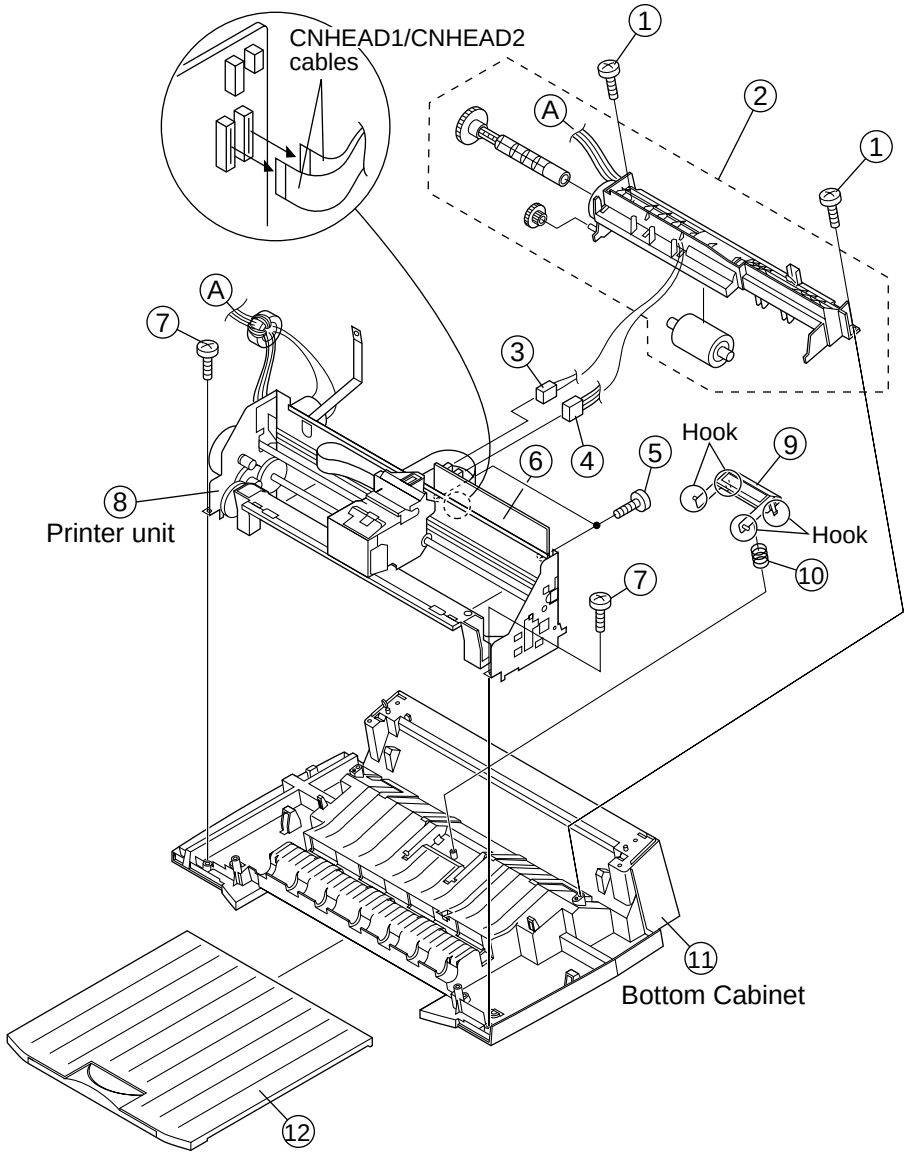
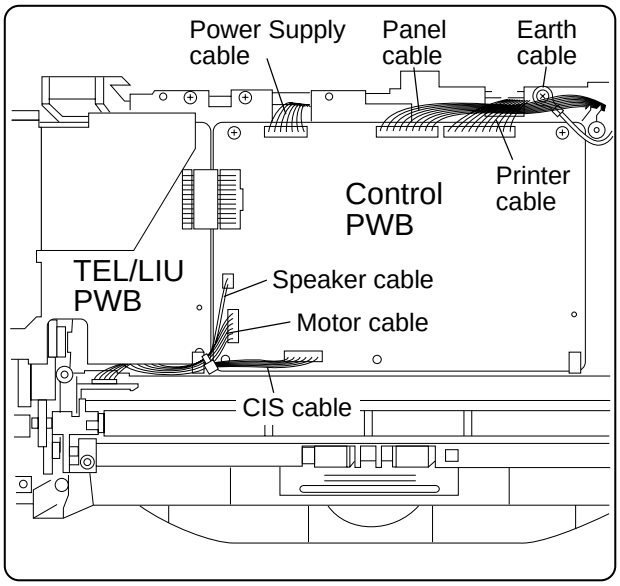


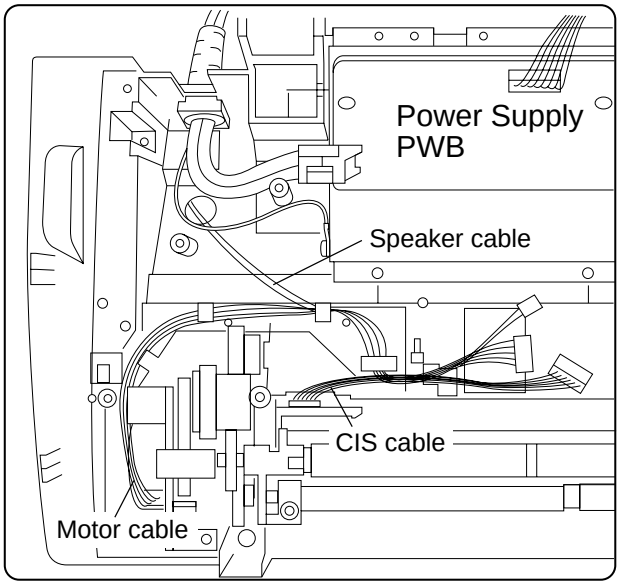
Fig. 6

7	Wire treatment

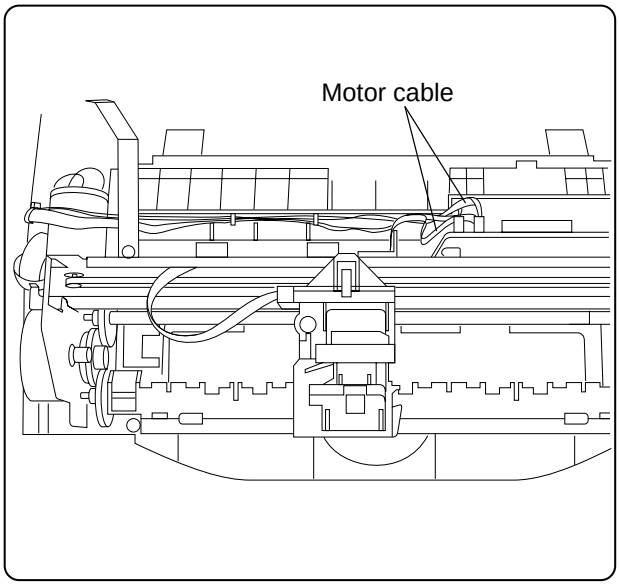
①



②



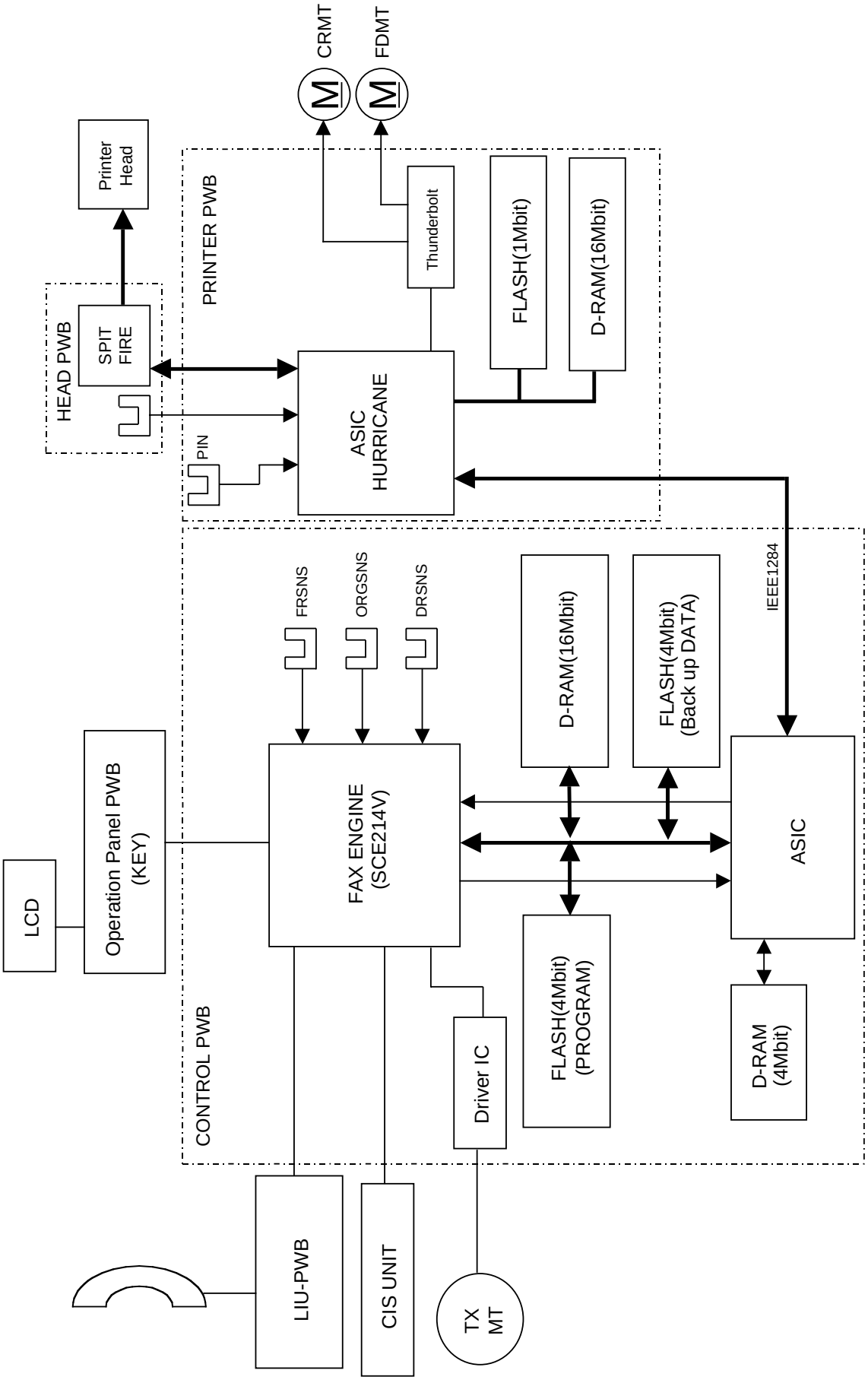
③



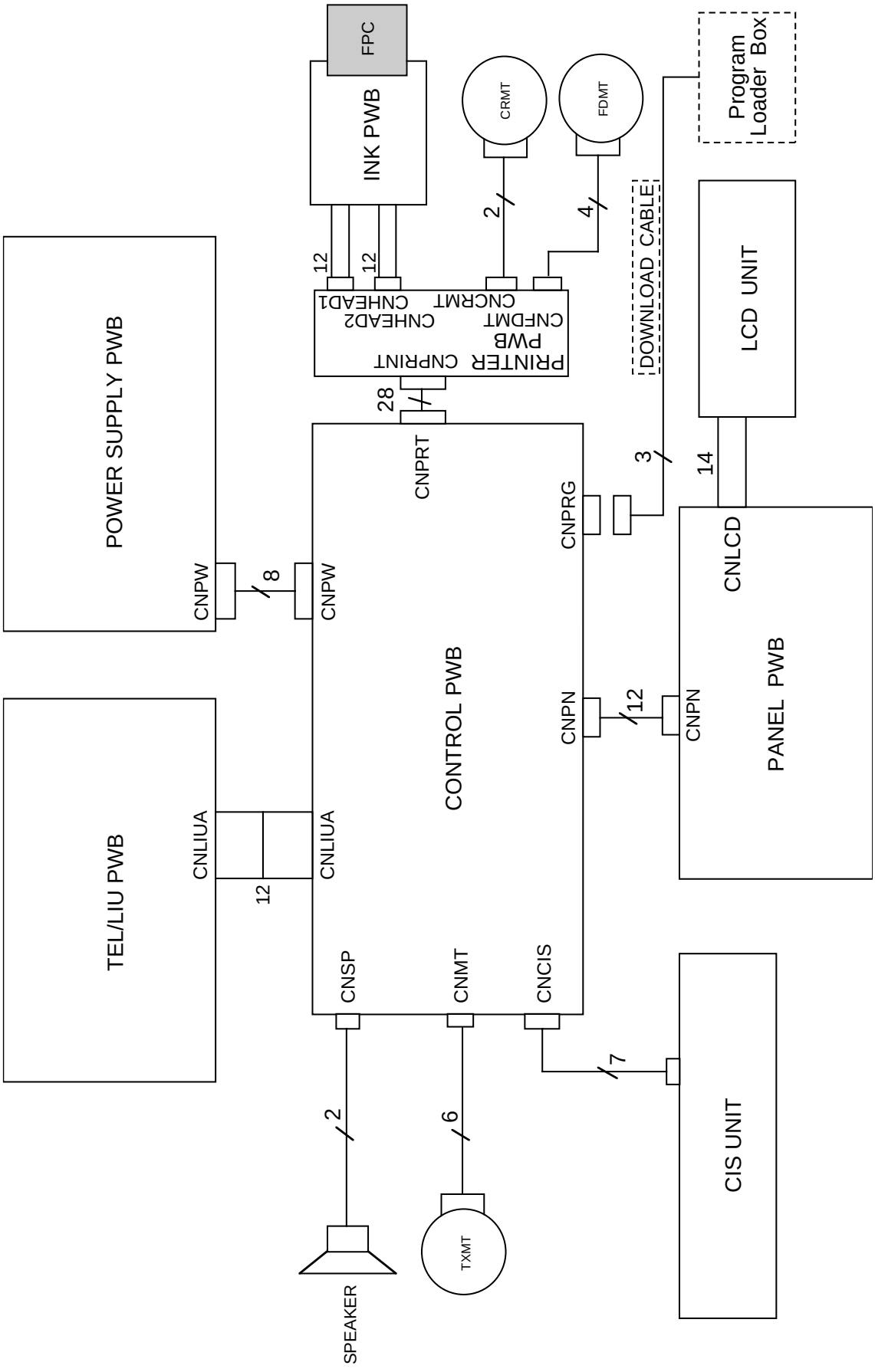
M E M O

CHAPTER 4. DIAGRAMS

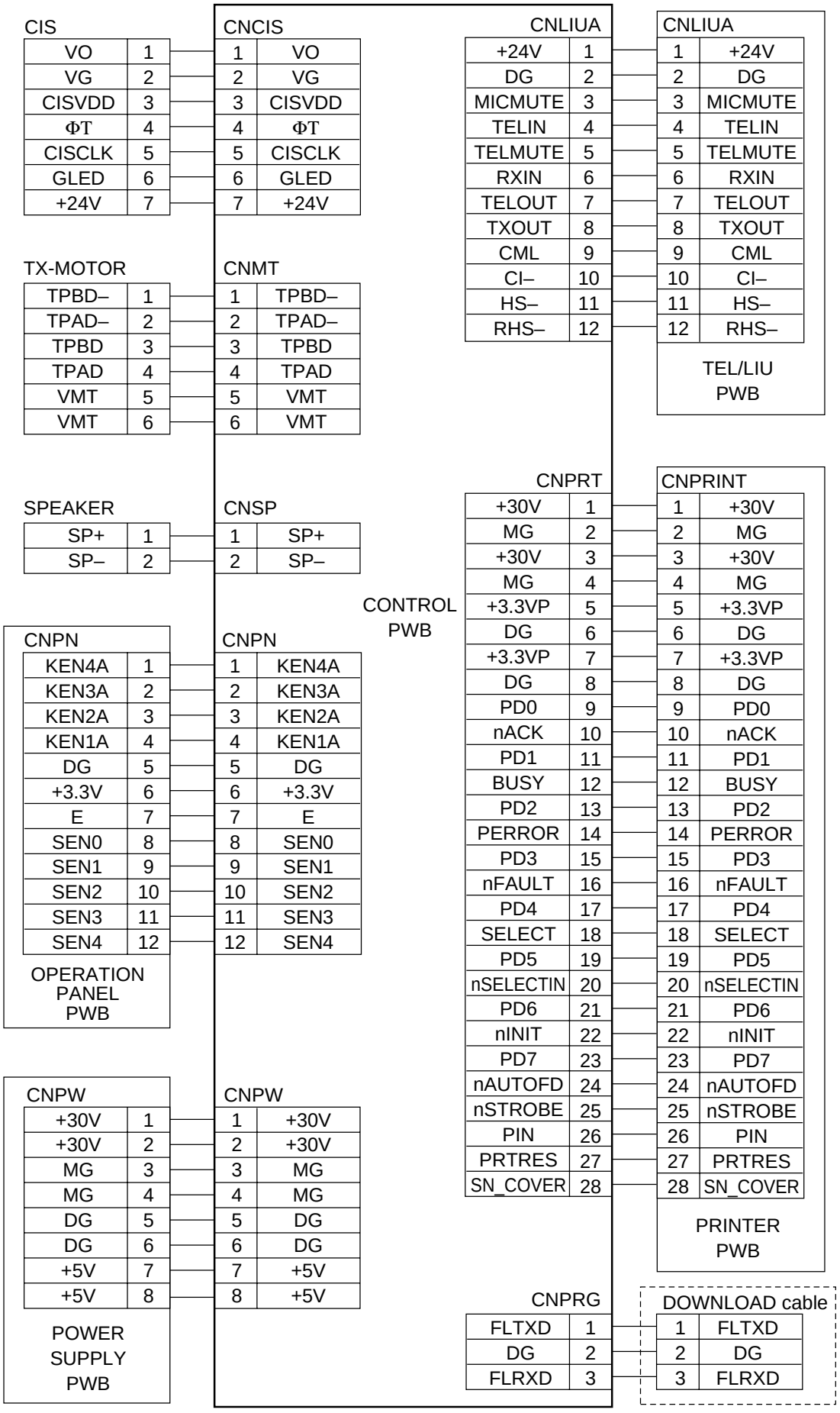
[1] Block diagram

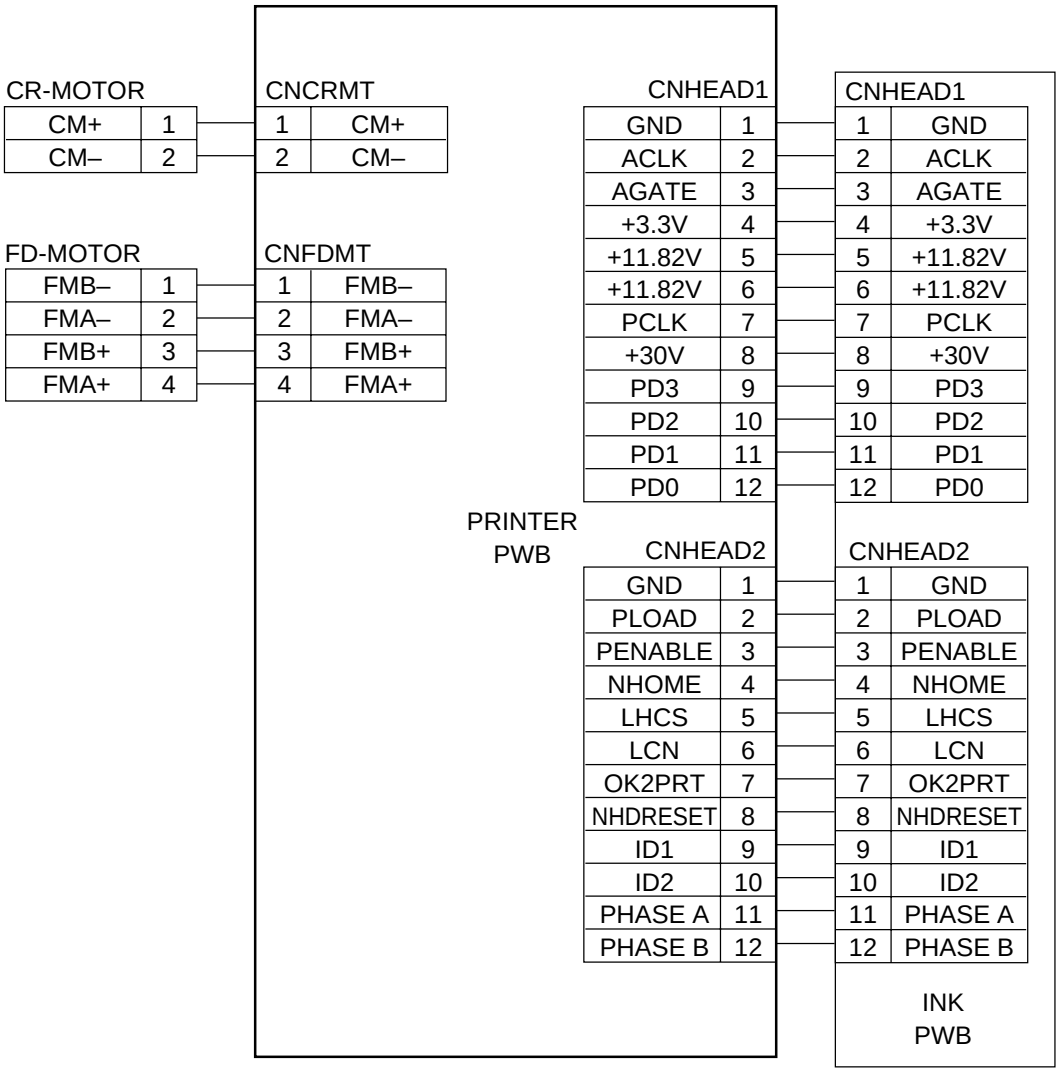


[2] Wiring diagram



[3] Point-to-point diagram




CR-MOTOR
CM+ 1
CM– 2
CNCRMT
1 CM+
2 CM–
FD-MOTOR
FMB– 1
FMA– 2
FMB+ 3
FMA+ 4
CNFDMT
1 FMB–
2 FMA–
3 FMB+
4 FMA+
PRINTER PWB
CNHEAD1
GND 1
ACLK 2
AGATE 3
+3.3V 4
+11.82V 5
+11.82V 6
PCLK 7
+30V 8
PD3 9
PD2 10
PD1 11
PD0 12
CNHEAD2
GND 1
PLOAD 2
PENABLE 3
NHOME 4
LHCS 5
LCN 6
OK2PRT 7
NHDRESET 8
ID1 9
ID2 10
PHASE A 11
PHASE B 12
CNHEAD1
1 GND
2 ACLK
3 AGATE
4 +3.3V
5 +11.82V
6 +11.82V
7 PCLK
8 +30V
9 PD3
10 PD2
11 PD1
12 PD0
CNHEAD2
1 GND
2 PLOAD
3 PENABLE
4 NHOME
5 LHCS
6 LCN
7 OK2PRT
8 NHDRESET
9 ID1
10 ID2
11 PHASE A
12 PHASE B
INK PWB

CHAPTER 5. CIRCUIT DESCRIPTION

[1] Circuit description

1. General description

The compact design of the control PWB is obtained by using CONEXANT fax engine in the main control section and high density printing of surface mounting parts. Each PWB is independent according to its function as shown in Fig. 1.

2. PWB configuration

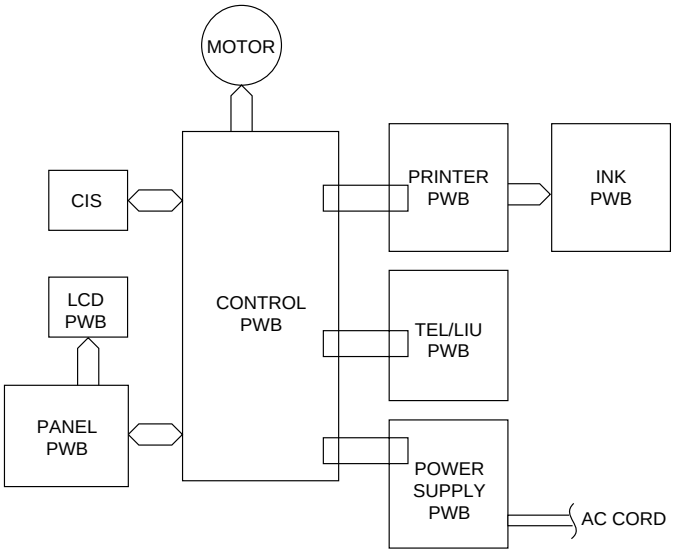


Fig. 1

1) Control PWB

The control PWB controls peripheral PWBs, mechanical parts, transmission, and performs overall control of the unit.
This machine employs a 1-chip modem (SCE214V) which is installed on the control PWB.

2) TEL/LIU PWB

This PWB controls connection of the telephone line to the unit.

3) Power supply PWB

This PWB provides voltages of +5V and +30V to the other PWBs.

4) Panel PWB

The panel PWB allows input of the operation keys.

5) LCD PWB

This PWB controls the LCD display.

6) Printer PWB

This PWB controls printer machine.

7) Ink PWB

This PWB controls Ink cartridge.

3. Operational description

Operational descriptions are given below:

- Transmission operation

  When a document is loaded in stand-by mode, the state of the document sensor is sensed via the 1 chip fax engine (SCE214V). With depression of the START key in the off-hook state, transmission takes place. Then, the procedure is sent out from the modem and the motor is rotated to move the document down to the scan line. In the scan processor, the signal scanned by the CIS is sent to the internal image processor and the AD converter to convert the analog signal into binary data. This binary data is transferred from the scan processor to the image buffer within the RAM and encoded and stored in the transmit buffer of the RAM. The data is then converted from parallel to serial form by the modem where the serial data is modulated and sent onto the line.

- Receive operation

  There are two ways of starting reception, manual and automatic. Depression of the START key in the off-hook mode in the case of manual receive mode, or CI signal detection by the LIU in the automatic receive mode.

  First, the SCE214V controls the procedure signals from the modem to be ready to receive data. When the program goes into phase C, the serial data from the modem is converted to parallel form in the modem interface of the 1 chip fax engine (SCE214V) which is stored in the receive buffer of the RAM. The data in the receive buffer is decoded software-wise to reproduce it as binary image data in the image buffer. The data is DMA transferred to the recording processor within the SCE214V which is then converted from parallel to serial form to be sent to the Hurricane on the printer PWB. Hurricane control the printing system.

- Copy operation

  To make a copy on this facsimile, the COPY key is pressed when the machine is in stand-by with a document on the document table and the telephone set is in the on-hook state. First, depression of the COPY key advances the document to the scan line. Similar to the transmitting operation, the image signal from the CIS is converted to a binary signal in the DMA mode via the 1 chip fax engine (SCE214V) which is then sent to the image buffer of the RAM. Next, the data is transferred to the recording processor to send the image data to Hurricane and then to the INK cartridge which is printed line by line. The copying takes place as the operation is repeated.

[2] Circuit description of control PWB

1. General description

Fig. 2 shows the functional blocks of the control PWB, which is composed of 5 blocks.

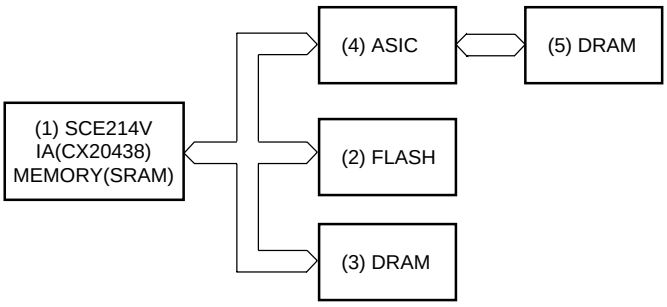


Fig. 2 Control PWB functional block diagram

2. Description of each block

(1) Main control block

The main control block is composed of CONEXANT 1 chip fax engine (SCE214V), FLASH (4Mbit x 2), DRAM (16Mbit), ASIC (μPD65944). Devices are connected to the bus to control the whole unit.

1) SCE214V (IC16) : pin-176 QFP (FAX CONTROLLER)

1 chip fax engine has internal integrated analog (20438) and internal memory (SRAM : 32kbit).

2) Pm39LV040-70VC (IC5, 6): pin-32 TSOP (FLASH)

(IC5)FLASH of 4Mbit equipped with software for the main CPU.
(IC6)FLASH of 4Mbit equipped with MEMORY for registration data.

3) IS41LV8205 (IC4): pin-28 SOJ (DRAM)

Image memory for recording process.
• Memory for recording pixel data without paper.
• Memory for system work and ECM receive buffer.

4) μPD65944 (IC12): pin-100 QFP (ASIC)

ASIC between SCE214V and Hurricane.
It converts the resolution and the aspect ratio of the serial scanning data sent by SCE214V and sends the converted data to Hurricane by parallel IF.

5) MSM51V4800E (IC19): pin-28 SOJ (DRAM)

Dedicated image buffer for ASIC (IC12).

(2) IC16 (SCE214V) Hardware description

1) Integrated Controller (SCC)

The Controller contains an internal MC24 Processor with a 16-MB address space and dedicated circuitry optimized for facsimile image processing and monitoring and for thermal or thermal transfer printer support.
The CPU provides fast instruction (up to 10 MHz clock speed) execution and memory efficient input/output bit manipulation. The CPU connects to other internal functions over an 8-bit data bus and 24-bit address bus and dedicated control lines.
The 24-bit external address bus, 8-bit data bus, control, status and decoded chip select signals support connection to external DRAM, and FLASH memory.

2) DRAM Controller

The CX06835 includes a DRAM controller with signal and page mode access support which supports fast, normal, or slow refresh time. DRAM memory space is provided in one block up to 4 MB. A maximum of 4 MB of DRAM is supported. This space has a programmble size and starting address. Refresh is performed automatically and is supported in standby mode. CAS and RAS signal support is provided for one-DRAM banks for both 4-bit and 8-bit organizations. Access speeds from 50ns to 70ns can be supported.

3) DMA Channels

Six internal DMA channels support memory access for scanner, T.4/T.6, and resolution conversion. DMA Channel 2 can be reprogrammed for external access to thermal printing, thermal transfer, or plain paper inkjet printing.

4) External RAM and ROM

Moveable and programmable size external SRAM memory of up to 1 MB, DRAM memory of up to 4 MB, and ROM of up to 2 MB can be directly connected to the SCE214V. By using an external address decoder, the size of SRAM and/or ROM can be extended. The ROM stores all the program object code.

5) Flash Memory Controller

The SCE214V includes a flash memory controller that supports NOR, NAND, and Serial NAND-type flash memory. The supported size of NOR-type memory is up to 1 MB and the supported size of NAND-type memory is unlimited.

6) Stepper Motor Control

Eight outputs are provided to external current drivers: four to the scanner motor and four to the printer motor. The stepping patterns are programmable and selectable line times are supported. A timeout circuit controls the power control of the motors. The printer or scanner motor outputs can be programmed as GPOs for applications using single motor or paper printers.

7) T.4/T.6 Compressor/Decompressor

MH, MR and MMR compression and decompression are provided in hardware. T.4 line lengths of up to 8192 pixels are supported. MMR and Alternating Compression/Decompression (ACD) on a line by line basis provide support for up to three independent compression and decompression processes.

8) Bi-level Resolution Conversion

One independent programmable bi-level 1D-resolution conversion block is provided to perform expansion or reduction on the T.4 decompressed data and scan image data. Image expansion can be programmed up to 200% and reduction down to 33%. Vertical line ORing and data output bit order reversal is also provided.

9) Printer IF

The Printer Interface provides a standard connection between the SCE214V and a thermal printhead to support thermal printing or thermal transfer. The thermal printer interface consists of programmable data, latch, clock, and up to four strobe signals. Programmable timing supports traditional thermal printers, as well as the latchless split mode printers, and line lengths of up to 2048 pixels. Line times from 5 ms to 40 ms are supported.
The SCE214V includes a thermal ADC (TADC) function utilizing a D/A converter and a comparator to monitor the printhead temperature. External terminating resistors must be supplied; the values are determined by the specific printhead selected.
As an option, plain paper inkjet printing can be supported.

10) Scanner and Video Control

Five programmable control and timing signals support common CCD and CIS scanners. The video control function provides signals for controlling the scanner and for processing its video output. Three programmable control signals (START, CLK1n, and CLK2) provide timing related to line and pixel timing. These are programmable with regard to start time, relative delay and pulse width.
Two video control output signals (VIDCTL[1:0]) provide digital control for external signal pre-processing circuitry. These signals provide a per pixel period, or per line period, timing with programmable polarity control for each signal.

11) Video Processing

The CX06835 supports two modes of shading correction for scanner data non-uniformity arising from uneven sensor output or uneven illumination. Corrections are provided on either an 8-pixel group or are applied separately to each pixel. Dark level correction and gamma correction are also provided.
Two-dimensional Error Diffusion/Dithering is performed on halftone images.
The CX06835 includes an 8 x 8 dither table, which is programmable and stored internally (8-bit per table entry). The table is arranged in a matrix of 8 rows by 8 columns. The video processing circuit provides mixed-mode detection/processing and multi-level Resolution Conversion for the scanner multi-level data. The conversion ratio of the multi-level Resolution Conversion is fixed to B4-A4 conversion.

12) Operator Panel Interface

Operation Panel functions are supported by the operator output bus OPO[6:0], the operator input bus OP[3:0], and two control outputs (LCDCS and LEDCTRL).
The CX06835 can directly interface to a 28-key keypad.
A 2-line LCD display module with 20 characters per line can be supported.

13) Synchronous Serial Interface (SSIF)

One or optionally two Synchronous only Serial Interfaces (SSIF) are built into the CX06835, which allows it to communicate with external peripherals. Each SSIF provides separate signals for Data (SSTXD, SSRXD), Clock (SSCLK), and Status (SSSTAT). Each SSIF is a duplex, three-wire system. The SSIF may be configured to operate as either a master or a slave interface. The bit rate, clock polarity, clock phase, and data shifting order are programmable.

14) Synchronous/Asynchronous Serial Interface (SASIF)

One or optionally two Synchronous/Asynchronous Serial Interface (SASIF) performs the following:
- Serial-parallel conversion of data received from a peripheral device.
- Parallel-to-serial conversion of data for transmission to a peripheral device.

This interface consists of serial transmit data (SASTXD), serial receive data (SASRXD), and a serial clock(SASCLK). The SASIF includes a programmable bit rate generator for asynchronous and synchronous operations. The data shifting order, data bit number, and the SASCLK polarity are programmable.
The optional SASIF 2 has an additional pin called DSS_AVAIL. This signal can be used to tristate the SASCLK2 and SASTXD2 signals.

15) Real Time Clock (RTC)

The CX06835 includes a battery backup real time clock. The RTC will automatically maintain the proper date and time for 32 years. Leap year compensation is included. A 32.768 kHz or 65.536 kHz crystal is required by the RTC.

16) Tone Generator (ALT_TONE)

The CX06835 provides a programmable tone generator output. The frequency of the tone generator is programmable from 400 Hz to 4 kHz. By using a PWM programmable high frequency as a modulation frequency, the output level can be made programmable.

17) Watchdog Timer

The Programmable Watchdog Timer is intended to guard against firmware lockup on the part of either executive-controlled background tasks or interrupt-driven tasks, and can only be enabled by a sequence of events under control of the Watchdog Control Logic. Once the Watchdog Timer has been enabled, it can not be disabled unless a system reset occurs.

18) Reset and Power Control

The RESETn I/O pin provides an internally generated reset output to external circuits, or it can accept an externally generated reset signal. This reset signal will not reset the RTC. Separate RTC battery power inputs are provided for battery-backup functions. A BATRSTn pin is provided, which resets the RTC circuits and other SCC circuits.

19) Power Up/Down Control

Power Up/Down detection is provided internally. The threshold voltages are:
- Power Up detection level = 2.83V to 2.95V.

An internally generated power down signal controls internal switching between primary and battery power. This control signal is also provided as an output on the PWRDWNn pin. An externally generated power down detector (optional) can be provided as an input on the PWRDWNn pin by setting the INTPWRDWNEn pin.

20) Stand-by and Sleep Modes

Two power saving modes are provided to reduce the power consumption. In stand-by mode, the CPU is functional, but the modem clock is turned off to save power. When this occurs, the modem may be activated by software under different conditions. In sleep mode, the clock is cut off from both the modem and the CPU to increase the power savings.
The system can be activated by paper insertion, key pressing events, and telephone ring detection.

21) Embedded Modem DSP

The embedded modem DSP is a synchronous 9600 bps half-duplex modem with error detection and DTMF generation/reception. It provides data transmission/reception from regular PSTN lines, PBX, or private lines.
The modem can operate at any standard V.29 data speed up to 9600 bps as well as in V.21 and V.23 modes.
The modem is designed for use in Group 3 facsimile machines. It satisfies the requirements specified in ITU-T recommendations V.29, V.27ter, V.21 Channel 2, and T.4 , and meets the signaling requirements of T.30. It also performs HDLC framing according to T.30 at all speeds.

Note: For technical details, refer to the FM209/FM214 Designer's Guide, (document 1175).

22) Software and Firmware Support Features

Available software and embedded firmware provides the following:
- Modem support for speeds up to 9600 bps.
- ECM under conditional assembly.
- DRAM memory support under conditional assembly.
- MH, MR and MMR support.
- Page memory receiving.
- 5ms minimum scan line time.
- Conditional Error Diffusion or Dither table (8x8) support.
- Dark Level Correction support.
- Single motor support.
- 28-key operator panel support.
- Call progress support for Europe and U.S.A.
- Monochrome inkjet print engine support.

SCE214V (IC16) Terminal descriptions

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
1	VDDPLL	—	—	—	PLL Power
2	VSSPLL	—	—	—	PLL GND
3	ROMCSn	O	—	13Xs	—
4	SYNC/GPO[20]	O	—	13Xs	—
5	WRn	O	—	13Xs	—
6	RDn	O	—	13Xs	—
7	DEBUGn	I	Hu	—	—
8	TSTCLK	O	—	13Xs	—
9	VSS	—	—	—	Digital GND
10	SXIN	I	Osc0	—	—
11	SXOUT	O	—	Osc0	—
12	OPO[0]/GPO[8]/SMPWRCTRL	O	—	13Xs	—
13	OPO[1]/GPO[9]/PMPWRCTRL	O	—	13Xs	—
14	OPO[2]/GPO[10]/RINGER	OZ	—	13Xs	—
15	OPO[3]/GPO[11]	O	—	13Xs	—
16	OPO[4]/GPO[12]/SSTXD1	O	—	13Xs	—
17	OPO[5]/GPO[13]	O	—	13Xs	—
18	OPO[6]/GPO[14]	O	—	13Xs	—
19	OPI[0]/GPIO[21]/SSRXD1	I/O	Hu	13Xs	—
20	OPI[1]/GPIO[22]/SSSTAT1	I/O	Hu	13Xs	—
21	OPI[2]/GPIO[23]/SSCLK1	I/O	Hu	13Xs	—
22	OPI[3]/GPIO[24]	I/O	Hu	13Xs	—
23	LCDCS/GPO[17]	O	—	1XC	—
24	VDD	—	—	—	Digital Power
25	RASn	O	—	13Xs	—
26	CAS[0]n	O	—	13Xs	—
27	DWRn	O	—	13Xs	—
28	VBAT	—	—	—	RTC Battery Power
29	XIN	I	Osc1	—	—
30	XOUT	O	—	Osc1	—
31	WRPROTn	O	—	1XC	—
32	TEST[1]	I	Hd	—	—
33	TEST[0]	I	Hd	—	—
34	BATRSTn	I	H	—	—
35	INTPWRDWNEn	I	H	—	—
36	PWRDWNn	I/O	H	13Xs	—
37	N.C.	—	—	—	—
38	ADGA	—	VADG	—	PADC Analog GND
39	VREFn/CLREF	I	VR-	—	PADC
40	VIN	I	VA	—	PADC
41	ADGA	—	VADG	—	PADC Analog GND
42	ADVA	—	VADV	—	PADC Analog Power
43	ADXG	—	VXG	—	PADC
44	VREFp	I	VR	—	PADC
45	VSS	—	—	—	VSS Digital GND
46	IVREFn	O	—	VR-	PADC
47	IVREFp	O	—	VR+	PADC
48	VDD	—	—	—	Digital Power
49	THADI	I	Analog	—	TADC
50	VSS	—	—	—	Digital GND
51	GPIO[17]/DSPIRQn	I/O	Hu	13Xs	—
52	GPIO[16]/IRQ[8]	I/O	Hu	13Xs	—
53	GPIO[15]/CS[5]n	I/O	Hu	13Xs	—
54	GPIO[13]/CS[3]n	I/O	Hu	13Xs	—
55	GPIO[37]/IRQ15n/DSPCSn	I	Hu	13Xs	—
56	GPIO[4]/CPCIN/TPHPWRCTRL/DMAREQ	I/O	Hu	13Xs	—
57	STRB[0]	O	—	1XC	—
58	STRB[1]	O	—	1XC	—
59	STRB[2]	O	—	1XC	—
60	STRB[3]	O	—	1XC	—
61	PLAT	O	—	3XC	—
62	PDAT	O	—	2XC	—
63	PCLK/DMAACK	O	—	3XC	—

SCE214V (IC16) Terminal descriptions

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
64	VDD	—	—	—	Digital Power
65	GPIO[11]/BE/SERINP/SR4IN	I/O	Hu	13Xs	—
66	GPIO[19]/RDY/SEROUT	I/O	Hu	13Xs	—
67	START	O	—	2XC	—
68	CLK1n/GPO[25]	O	—	13Xs	—
69	CLK2/GPO[24]	O	—	13Xs	—
70	GND	—	—	—	IA GND
71	MCLK	ID	—	—	Main Clock from DSP
72	CTRLI	ID	d	—	Control Data from DSP
73	TESTC	ID	d	—	IA Test
74	SOUT	OD	—	T	Serial Data to DSP
75	SIN	ID	d	—	Serial Data to DSP
76	FSYNC	I/OD	d	—	Frame Sync Signal (IA)
77	POR	IA	d	—	Hardware Reset
78	GND	—	—	—	IA GND
79	LINE_INP	IA	—	—	Analog Input to Line Pre-Amp.
80	MIC_INP	IA	—	—	Positive differential Analog Input to Microphone Pre-Amp.
81	MIC_INM	IA	—	—	Negative differential Analog Input to Microphone Pre-Amp.
82	MIC_BIAS	OA	—	—	2.2 V Nominal DC Bias Source for Electret Microphone
83	BG	OA	—	—	Analog reference Voltage Output
84	VC	OA	—	—	Analog Ground Bias Output
85	AVDD	PWR	—	—	IA Analog Power
86	GND	—	—	—	IA GND
87	LINE_OUTP	OA	—	—	Line Driver Output
88	SPKR_OUTP	OA	—	—	Positive Speaker Driver Output
89	SPKR_OUTM	OA	—	—	Negative Speaker Driver Output
90	DVDD	PWD	—	—	IA Digital Power
91	MODE_0	ID	u	—	Connect to VSS (IA Mode Selection)
92	ICLK	I/OD	—	—	IA Bit Clock Input/Output
93	VSS	—	—	—	VSS Digital GND
94	FCSn[1]/VIDCTL[0]/GPO[23]	O	—	13Xs	—
95	IARESET	O	—	13Xs	DSP to EXTIA POR
96	IACLK	O	—	13Xs	DSP to EXTIA MCLK
97	VDD	—	—	—	Digital Power
98	IA1CLK	I	H	—	DSP from EXTIA ICLK
99	SR3IN/DSPIRQn	I	H	—	DSP from primary EXTIA SOUT/EXT. Modem IRQn
100	SR4OUT	O	—	13Xs	DSP to primary EXTIA SIN
101	SR1IO	O	—	13Xs	DSP to EXTIA CTRL1
102	SA1CLK	I	H	—	DSP from EXTIA FSYNC
103	GPIO[7]/SSRXD2/SASRXD2	I/O	Hu	13Xs	—
104	GPIO[6]/SSTXD2/SASTXD2	I/O	Hu	13Xs	—
105	GPIO[5]/SSCLK2/SASCLK2	I/O	Hu	13Xs	—
106	GPIO[10]/SSSTAT2/DSS_AVAIL	I/O	Hu	13Xs	—
107	VSS	—	—	—	Digital GND
108	RESETn	I/O	Hu	2XC	—
109	GPIO[3]/SASCLK	I/O	Hu	13Xs	—
110	GPIO[2]/SASRXD	I/O	Hu	13Xs	—
111	GPIO[1]/SASTXD	I/O	Hu	13Xs	—
112	GPIO[9]/FRDn	I/O	Hu	13Xs	—
113	GPIO[8]/FWRn	I/O	Hu	13Xs	—
114	A[0]	I/O	Tu	13Xs	CPU Address Bus
115	A[1]	I/O	Tu	13Xs	CPU Address Bus
116	A[2]	I/O	Tu	13Xs	CPU Address Bus
117	A[3]	I/O	Tu	13Xs	CPU Address Bus
118	A[4]	I/O	Tu	13Xs	CPU Address Bus
119	VDD	—	—	—	Digital power
120	A[5]	I/O	Tu	13Xs	CPU Address Bus
121	A[6]	I/O	Tu	13Xs	CPU Address Bus
122	A[7]	I/O	Tu	13Xs	CPU Address Bus
123	A[8]	I/O	Tu	13Xs	CPU Address Bus
124	A[9]	I/O	Tu	13Xs	CPU Address Bus
125	A[10]	I/O	Tu	13Xs	CPU Address Bus
126	A[11]	I/O	Tu	13Xs	CPU Address Bus

SCE214V (IC16) Terminal descriptions

Pin No.	Pin List	I/O	Input Type	Output Type	Pin Description
127	A[12]	I/O	Tu	13Xs	CPU Address Bus
128	A[13]	I/O	Tu	13Xs	CPU Address Bus
129	A[14]	I/O	Tu	13Xs	CPU Address Bus
130	A[15]	I/O	Tu	13Xs	CPU Address Bus
131	A[16]	I/O	Tu	13Xs	CPU Address Bus
132	VDD	—	—	—	Digital Power
133	VSS	—	—	—	Digital GND
134	A[17]	I/O	Tu	13Xs	CPU Address Bus
135	A[18]	I/O	Tu	13Xs	CPU Address Bus
136	A[19]	I/O	Tu	13Xs	CPU Address Bus
137	A[20]	I/O	Tu	13Xs	CPU Address Bus
138	A[21]/EYECLK	I/O	Tu	13Xs	CPU Address Bus
139	A[22]/EYESYNC	I/O	Tu	13Xs	CPU Address Bus
140	A[23]/EYEXY	I/O	Tu	13Xs	CPU Address Bus
141	D[0]	I/O	Tu	13Xs	CPU Data Bus
142	D[1]	I/O	Tu	13Xs	CPU Data Bus
143	D[2]	I/O	Tu	13Xs	CPU Data Bus
144	D[3]	I/O	Tu	13Xs	CPU Data Bus
145	D[4]	I/O	Tu	13Xs	CPU Data Bus
146	D[5]	I/O	Tu	13Xs	CPU Data Bus
147	D[6]	I/O	Tu	13Xs	CPU Data Bus
148	D[7]	I/O	Tu	13Xs	CPU Data Bus
149	GPIO[20]/ALTTONE	I/O	Hu	13Xs	—
150	GPIO[26]	I/O	Hu	13Xs	—
151	GPIO[27]	I/O	Hu	13Xs	—
152	GPIO[28]	I/O	Hu	13Xs	—
153	GPO[26]	O	—	13Xs	—
154	GPO[27]	O	—	13Xs	—
155	GPO[28]	O	—	13Xs	—
156	GPO[29]	O	—	13Xs	—
157	GPO[30]/SR3OUT	O	—	13Xs	—
158	GPIO[29]	I/O	Hu	13Xs	—
159	GPIO[31]	I/O	Hu	13Xs	—
160	GPIO[32]	I/O	Hu	13Xs	—
161	VDD	—	—	—	Digital power
162	GPIO[34]	I/O	Hu	13Xs	—
163	GPIO[35]	I/O	Hu	13Xs	—
164	GPIO[36]	I/O	Hu	13Xs	—
165	Vss	—	—	—	Digital GND
166	VDD	—	—	—	Digital Power
167	PM[0]/GPO[0]	O	—	13Xs	—
168	PM[1]/GPO[1]	O	—	13Xs	—
169	PM[2]/GPO[2]	O	—	13Xs	—
170	PM[3]/GPO[3]	O	—	13Xs	—
171	SM[0]/GPO[4]	O	—	13Xs	—
172	SM[1]/GPO[5]	O	—	13Xs	—
173	SM[2]/GPO[6]	O	—	13Xs	—
174	SM[3]/GPO[7]	O	—	13Xs	—
175	REGDMA/GPO[18]/CLKDIV[0]	I/O	T	13Xs	—
176	WAITn/GPO[19]/CLKDIV[1]	I/O	T	13Xs	—

(3) Panel control block

The following controls are performed by the SCE214V.

- Operation panel key scanning
- Operation panel LCD display

(4) Mechanism/recording control block

- Recording control block diagram

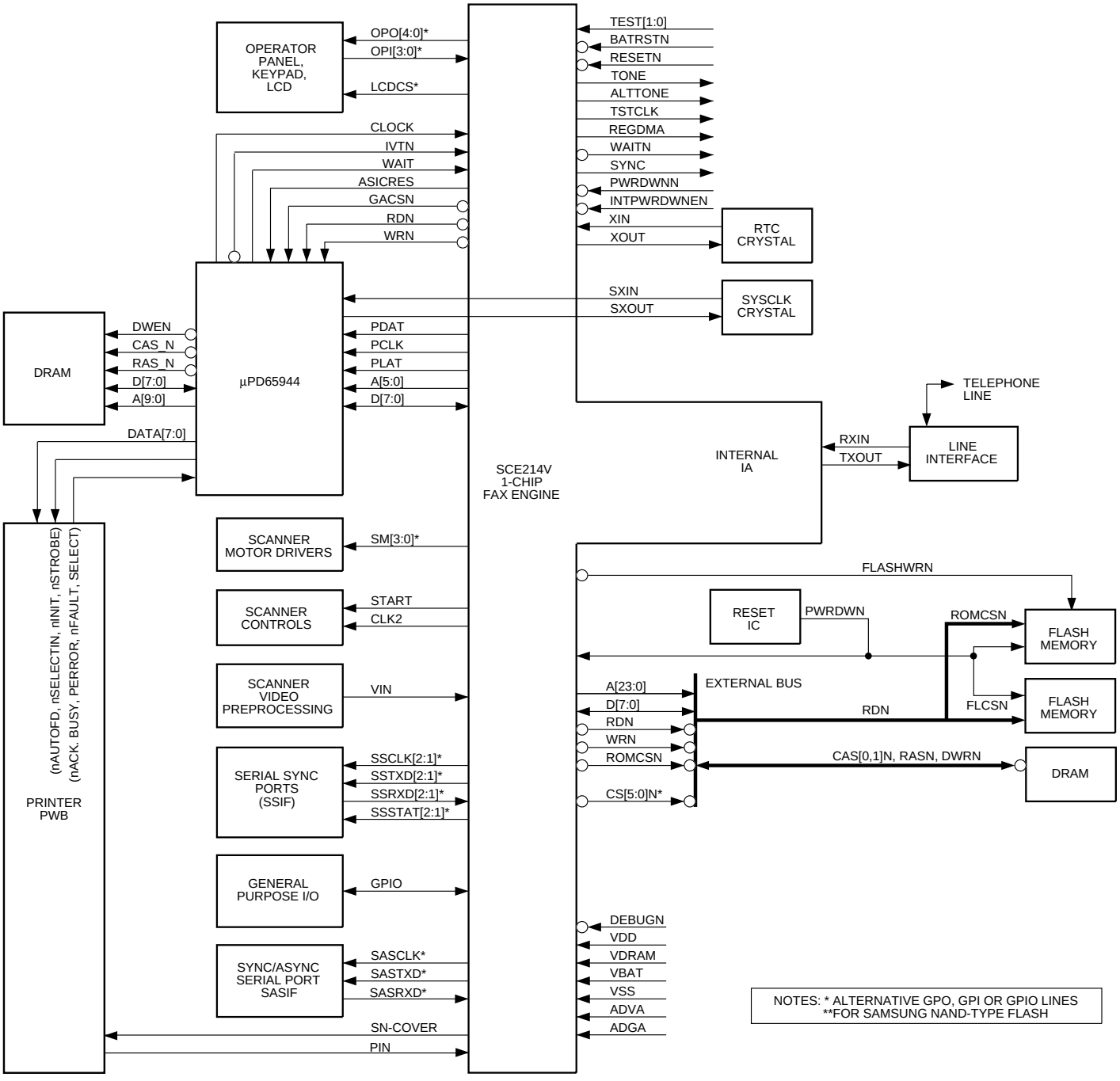


Fig. 3

(5) Modem block (CX20438)

Integrated Analog Control Resisters for CX20438

The CX20438 IA can be used as a Primary Integrated Analog (PIA) codec or as a Secondary Integrated Analog (SIA) codec, depending on the signal connection with the SCE Controller ASIC device. In the SCE100 product, both the PIA and the SIA are packaged external to the SCE Controller device, whereas in the SCE214V, the PIA is packaged with the SCE214V Controller and the SIA is external.
The CX20438 IA provides gain, filtering, internal analog switching, and an internally sourced microphone bias output. The IA is controlled by three control registers and an address register located in internal RAM space which are accessed via the modem interface memory. These registers provide individual controls for the IA's inputs, outputs, gain settings, and switching.
The registers are located in internal DSP RAM. Each bit of each 8-bit IA control register has exactly the same meaning for the PIA and the SIA. The LSB of each 16-bit address contents is used to control the PIA. The MSB of each 16-bit address contents is used to control the SIA.
The following table the PIA/SIA control register RAM access code.

Register	SBRAMx	BRx	Crx	IOx	AREXx	ADDx	PIA Reg*	SIA Reg*
IACR1	0	0	0	0	0	D0	0	1
IACR2	0	0	0	0	0	D4	0	1
IACR3	0	0	0	0	0	D5	0	1
IAADD	0	0	0	0	0	CE	0, 1	0, 1
NOTES: *Registers to use when x=1. When x=2, add 10h.								

- For changes made to IACR1 tobe effective, the host must write to IAADD with a value of 0002h.
- For changes made to IACR2 tobe effective, the host must write to IAADD with a value of 0006h.
- For changes made to IACR3 tobe effective, the host must write to IAADD with a value of 0007h.

Configuration default values are shown below.

DEFAULT VALUE			
CONFIGURATION	**IACR1**	**IACR2**	**IACR3**
V.17/V.33	1D9Eh	0008h	0000h
V.29	1D9Eh	0008h	0000h
V.27ter	1D9Eh	0008h	0000h
V.21 Ch. 2	1D9Eh	0008h	0000h
V.23/Caller ID	1D9Eh	0008h	0000h
Tone Transmit/Detect	1D9Eh	0008h	0000h
Voice/Audio Codec	0D16h	0008h	0000h
Speakerphone	0D16h	0008h	0000h

The following signal flow block diagram is for a signal IA and it applies to both PIA and SIA.

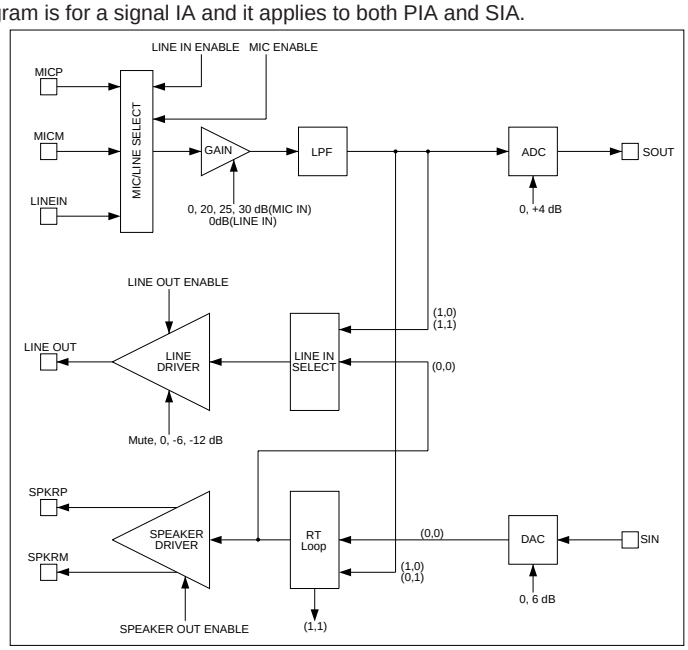


Fig. 4 PIA/SIA Signal Flow Control

(6) IC12 (μPD65944) Hardware description

Serial data reception from FaxEngine
FaxEngine external bus connection
Resolution conversion/image zooming (70 % - 200 %)
Main scan: 203.3 dpi → 600 dpi
Sub scan: 97.79 dpi/195.58 dpi/391.16 dpi → 600 dpi
Main scanning direction: print position centering
Sub scanning direction: white skip
Printing dot calculation
Printing data: swath conversion
Split printing
IEEE1284 interface (commands/responses)
Autonomous output of printing commands
Buffer memory control (DRAM)/access arbitration

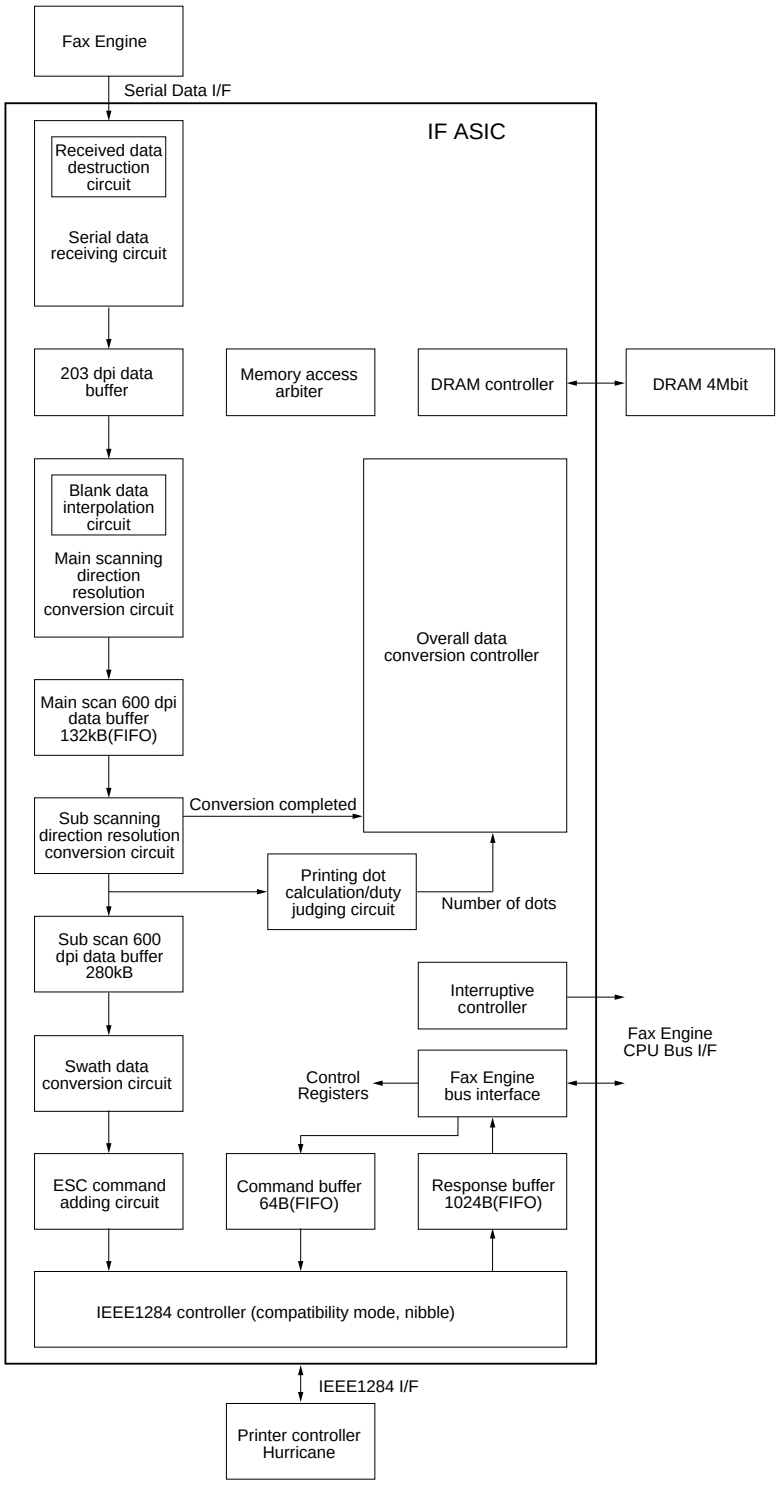


Fig. 5 Configuration of IF ASIC

	Function \ Functional block	Serial data receiving circuit	203 dpi data buffer	Main scanning direction resolution conversion circuit	Main scan 600 dpi data buffer	Sub scanning direction resolution conversion circuit	Sub scan 600 dpi data buffer	Printing dot calculation circuit	Print duty judging circuit	Swath conversion circuit	ESC command adding circuit	Command transmission buffer	Response receiving buffer	IEEE1284 controller	Fax Engine bus interface	Memory controller/arbiter	Overall data conversion controller
1	Serial data reception	●	○												○	○	○
2	Main scan resolution conversion		○	●	○										○	○	○
3	Sub scan resolution conversion				○	●	○								○	○	○
4	Main scan print position centering	●		●											○	○	○
5	Swath data conversion						○			●					○	○	○
6	Printing dot calculation							●			○				○	○	○
7	Split printing for power protection								●	●					○	○	○
8	Transmission of printing data/delivery command									○	●			●			
9	Command transmission											●		●	○	○	
10	Response reception												●	●	○	○	

● Main functional block
○ Relevant functional block

Table 1. Correlation of ASIC functions and functional blocks

1) Overall data conversion controller

It controls a data flow of the overall ASIC. When data is stored in the 203.2 dpi data buffer, the controller activates the main scanning direction resolution conversion circuit of the subsequent stage, etc. and stores the data in the main scan 600 dpi data buffer. Then activates the sub scanning direction resolution switcher circuit and stores the converted data in the sub scan 600 dpi data buffer. When the data of more than 208 lines is ready for print head vertical direction, triggers are sent to the swath conversion circuit and the ESC command adding circuit.

2) Serial data receiving circuit

This circuit receives serial printing data from Fax Engine and stores them in the 203 dpi data buffer. Data PDAT is received via an 8-bit shift register when PCLK starts up. The circuit writes the data on the buffer every 8 dots (1 byte).
The input amount per line is fixed to 216 bytes (1728 dots). The upper limit of the serial transfer frequency is set to 3.3 MHz. Equipped with the following functions to realize main scanning direction centering.

- Received data destruction
  This function does not receive (invalidates) the data printed on both margins, unnecessary for centering, and only accepts valid data. The number of dots to invalidate depends on the conversion rate of resolution.
  If the number is less than 0, data will not be invalidated and white dots will be inserted instead.
- Interpolation of blank data (8 dots or less) on both margins
  Blank data of a byte (8 dots) are inserted in the after-mentioned blank data interpolation circuit. Blank data of less than 1 byte are inserted in the main block.
  The per-line-data to be written on the 203.2 dpi data buffer should be 218 bytes at the maximum.

3) 203 dpi data buffer (FIFO controller)

It occupies 96 kB of DRAM memory as a serial data receiving buffer. The buffer mounts an address counter as part of FIFO mechanism.
Equipped with a judging circuit to indicate the FIFO status either as FULL, Near FULL or EMPTY.

4) Main scanning direction resolution conversion circuit

This circuit reads raster data from the 203 dpi data buffer and changes the resolution by the dot. The converted data will be stored in the main scan 600 dpi data buffer one by one.
After converting 4800 dots (600 bytes) in the main scanning direction, end-of-line pulse will be sent.
Equipped with the following functions to realize main scanning direction centering.

- Interpolation of 8-dot (byte) blank data
  This function inserts blank data on both ends of the line for main scanning direction centering. It depends on the conversion rate of resolution.
  If the number of dots is less than 0, blank data will not be interpolated. The blank data of less then 8 dots will be inserted in the aforementioned "serial data receiving circuit". The main block accepts the insertion of byte size (8-dot) blank data.

5) Main scan 600 dpi data buffer (FIFO controller)

It makes up the buffer with a FIFO mechanism. Though it carries out the same pointer control as the 203 dpi data buffer, The data byte per line is fixed to 600.
The Read channel should be connected to the sub scanning direction resolution conversion circuit.

6) Sub scanning direction resolution conversion circuit

It reads 1 byte (8 dots in the main scanning direction) of data in the main scan 600 dpi data buffer, converts the resolution in the sub scanning direction, and stores the data in the sub scan 600 dpi data buffer. Then it repeats this operation every 8 dots until reaching the end of line.
It further converts the data for 208 lines and sends out the completion pulse when finished.
In the sub scanning direction, the input data per line may increase up to 13 lines and go over the swath. To simplify circuit configuration, apply the same conversion method to after the 208th line and continue conversion up to 220 lines. The lines 209th and over should be handled as the next swath data.

7) Sub scan 600 dpi data buffer (buffer controller)

It performs pointer management to use the DRAM as a buffer for 440 lines (208 + 12 lines x 2).
The buffer cannot be cleared until swath data conversion (printing command output) is complete as it reads data in the line direction. To avoid degraded performance, this buffer should have a capacity for 2 sets of swath data. The buffer should store 220 lines per swath due to the configuration of the sub scanning direction resolution conversion circuit.

8) Printing dot counting circuit/print duty judging circuit

It monitors the output data from the sub scanning direction resolution conversion circuit and counts the number of black dots. When counting of a swath (208 lines) is finished, it sends the result to the ESC command adding circuit to reflect it on the ESC command parameter.
To judge whether or not the print density of every inch (600 dots) in the main scanning direction surpasses 50%, it counts the dots in 8 areas (for 8 inches) every 75 bytes (600 dpi x 1 inch/8) after the line start. If the print duty in any area surpasses 50%, the circuit notifies split printing to the swath data conversion circuit. It further separates and counts odd- and even-numbered slices in each area in order to clarify the number of dots for split printing. When dots in all areas for a swath are counted, odd- and even-numbered slices are totaled.
When the counting for a swath is finished, if both slices total 0, it notifies the ESC command adding circuit to activate white skip operation and clears the sub scan 600 dpi data buffer.

9) Swath data conversion circuit

This circuit reads data by 1-bit increments from the discrete address of the sub scan 600 dpi data buffer and converts them into data of a slice. When split printing is instructed from the printing dot calculation circuit, it converts even-numbered slices for the first time. When conversion completes, it creates odd-numbered slices without clearing the sub scan 600 dpi data buffer.

10) ESC command adding circuit

It adds a command line and a parameter to the printing data when a print command is sent. Then sends a paper feed command for white skip and a paper deliver command for after a single page printing.

11) IEEE1284 controller

It sends commands to, receives responses from and sends printing commands and data to IEEE1284 interface of Hurricane.

12) Command buffer

It provides a buffer of 64 bytes to send commands from Fax Engine to the printer (Hurricane). The actual buffer is located in the DRAM to keep down the number of gates.
Therefore, equipped with a data path to the memory access arbiter and an address controller to realize the buffer.

13) Response buffer

It provides a buffer of 1024 bytes to receive responses from the printer (Hurricane) to Fax Engine. The actual buffer is located in the DRAM as with the command buffer.
Also equipped with a data path to the memory access arbiter and an address controller to realize the buffer.

14) FaxEngine bus interface

It functions as a bridge connecting the external bus of Fax Engine-LSI and the internal bus of this ASIC. It operates at 1 wait except for the accesses by the command or response buffer. As these two buffer accesses via the arbiter, the external wait will be generated by the RDY signal.

15) Interruptive controller

It collects causes of interruption that occurs in the ASIC and generates interruptive signals when interruption of Fax Engine firmware is prohibited. It clears or retains interruption factors.

16) Memory access arbiter

It adjusts memory accesses from buffers. It possesses 9 access channels.
The arbitration logic needs to be devised in order to secure the data transmission rate.

17) DRAM controller

It accesses memory using read cycle, early write cycle and CAS-before-RAS refresh cycle of MSM51V4800E-70 [OKI] of 4Mbit Fast Page DRAM.

μPD65944 (IC12) Terminal descriptions

PIN NO.	PIN NAME	I/O	BLOCK TYPE
1	VDD	–	–
2	XOUT	O	OSO1
3	XIN	I	OSI1
4	VDD	–	–
5	GND	–	–
6	CLKMAIN	O	FE01
7	GND	–	–
8	GND	–	–
9	VDD	–	–
10	SCK	I	FID1
11	AMC	I	FID1
12	RDY	O	BOUT
13	INTMAIN_N	O	BOUT
14	CS_N	I	FI01
15	RD_N	I	FI01
16	WR_N	I	FI01
17	SMC	I	FID1
18	ASICRES(SIN)	I	FIS1
19	DEBUG4(SOT)	O	FO09
20	GND	–	–
21	D7	I/O	B00C
22	D6	I/O	B00C
23	D5	I/O	B00C
24	D4	I/O	B00C
25	VDD	–	–
26	GND	–	–
27	D3	I/O	B00C
28	D2	I/O	B00C
29	D1	I/O	B00C
30	D0	I/O	B00C
31	GND	–	–
32	A5	I	F101
33	A4	I	F101
34	A3	I	F101
35	A2	I	F101
36	A1	I	F101
37	A0	I	F101
38	GND	–	–
39	VDD	–	–
40	SD7	I/O	B00U
41	SD6	I/O	B00U
42	SD5	I/O	B00U
43	SD4	I/O	B00U
44	GND	–	–
45	SA8	O	FO09
46	SA7	O	FO09
47	SA6	O	FO09
48	SA5	O	FO09
49	SA4	O	FO09
50	GND	–	–

PIN NO.	PIN NAME	I/O	BLOCK TYPE
51	VDD	–	–
52	SA3	O	FO09
53	SA2	O	FO09
54	SA1	O	FO09
55	SA0	O	FO09
56	GND	–	–
57	SD3	I/O	B00U
58	SD2	I/O	B00U
59	SD1	I/O	B00U
60	SD0	I/O	B00U
61	SA9	O	FO09
62	VDD	–	–
63	GND	–	–
64	CAS_N	O	FO09
65	RAS_N	O	FO09
66	DWE_N	O	FO09
67	GND	–	–
68	VDD	–	–
69	GND	–	–
70	DEBUG1	I	FDS1
71	DEBUG2	I	FDS1
72	DEBUG3	I	FDS1
73	TEST	I	FDS1
74	GND	–	–
75	VDD	–	–
76	GND	–	–
77	DATA8	O	FO09
78	DATA7	O	FO09
79	DATA6	O	FO09
80	DATA5	O	FO09
81	GND	–	–
82	DATA4	O	FO09
83	DATA3	O	FO09
84	DATA2	O	FO09
85	DATA1	O	FO09
86	AUTOFD_N	O	FO09
87	STROBE_N	O	FO09
88	INIT_N	O	FO09
89	SELECTIN_N	O	FO09
90	VDD	–	–
91	GND	–	–
92	SELCT	I	FIU1
93	FAULT_N	I	FIU1
94	PERROR	I	FIU1
95	BUSY	I	FIU1
96	ACK_N	I	FIU1
97	PCLK	I	FIS1
98	PDAT	I	FIS1
99	PLAT	I	FIS1
100	GND	–	–

[3] Circuit description of TEL/LIU PWB

(1) TEL/LIU block operational description

1) Block diagram

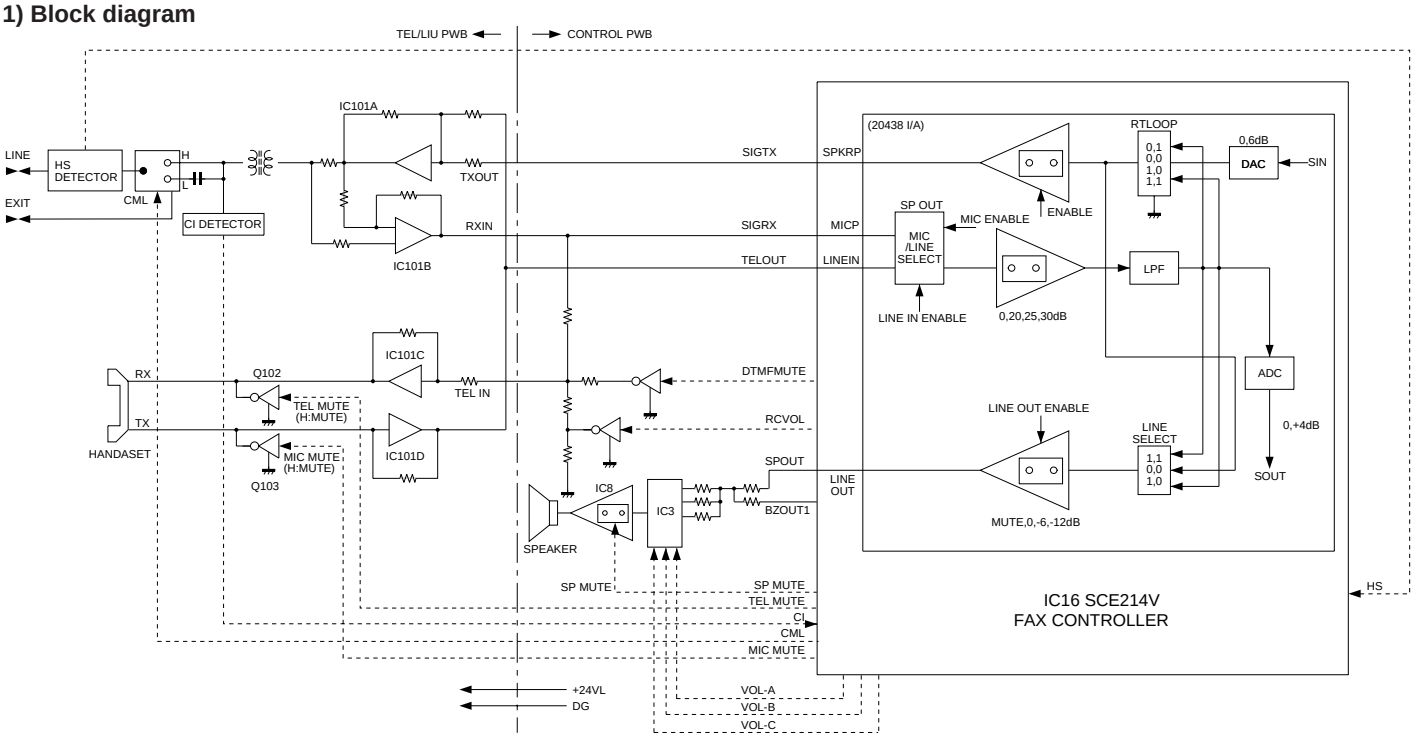


Fig. 6

2) Circuit description

The TEL/LIU PWB is composed of the following 7 blocks.

1. Speech circuit section
2. Dial transmission section
3. Speaker amplifier section
4. Ringer circuit section
5. CI detection circuit
6. Signal/DTMF transmission level & receiving level
7. External phone off-hook detection (HS) section

3) Block description

1. Speech circuit section

- The receiver volume is an electronic volume type, this model is switched in 3 steps.

2. Dial transmission section

- D.P. transmission: The CML relay is turned on and off for control in the DP calling system. (Refer to the attached sheet.)
- DTMF transmission: It is formed in the modem, and is output.

3. Speaker amplifier section

- Ringer volume :It is controlled by the combination of the attenuator value of the LINE DRIVER in the modem and the ringer sending level sent from the modem.
- Speaker volume :It is controlled by the attenuator value of the IC3 and IC16 (VOL-A.B.C).

4. Ringer circuit section

- The ringer sound is formed in the tone of modem when CI signal is detected. The amplifier circuit drives the speaker of the main body.

5. CI detection circuit

- CI is detected by the photo coupler which is integrated in series in the primary side TEL circuit well proven in the existing unit.

6. Signal/DTMF transmission level & receiving level

- Signal transmission level setting: ATT -8 dB Circuit output: -11.5 dBm.
- DTMF transmission level setting: HF -2.5 dBm LF -4.0 dBm
  Thus, set the level.

7. External phone off-hook detection (HS) section

Line current detection will be switched to ON (LOW) when the main unit or the external phone is off the hook. When the HS signal is turned on at CML OFF, the external phone is considered to be off the hook and, at CML ON, the HS signal is constantly turned on (if connected).

4) Signal selection

The following signals are used to control the transmission line of TEL/FAX signal. For details, refer to the signal selector matrix table.

[Control signals from output port]

<table>
<tr><th>Signal Name</th><th>Description</th></tr>
<tr><td>CML
(The circuit is located in the TEL/LIU PWB.)</td><td><u>Line connecting relay and DP generating relay</u>
H: Line make
L: Line break</td></tr>
<tr><td>SP MUTE
(The circuit is located in the control PWB.)</td><td><u>Speaker tone mute control signal</u>
H: Muting (Power down mode)
L: Muting cancel (Normal operation)</td></tr>
<tr><td>TELMUTE</td><td><u>Handset reception mute control signal</u>
H: Muting
L: Muting cancel</td></tr>
<tr><td>RCVOL
DTMFMUTE
(The circuit is located in the control PWB.)</td><td><u>Handset receiver volume control signal</u>
<table>
<tr><td>Volume</td><td>High</td><td>Middle</td><td>Low</td><td>DTMF sending</td></tr>
<tr><td>RCVOL</td><td>L</td><td>H</td><td>H</td><td>H</td></tr>
<tr><td>DTMFMUTE</td><td>L</td><td>L</td><td>H</td><td>H</td></tr>
</table>
Note: The DTMF sending listed above is DTMF signal sending in the handset OFF-HOOK mode.</td></tr>
</table>

VOLUME SETTING		LINEOUT A (HIGH)	LINEOUT A (LOW)	RCVOL	DTME MUTE	VOL A	VOL B	VOL C
Receiver volume setting	Low			1	1			
	Middle			1	0			
	High			0	0			
DTMF Transmission volume setting (Receiver)	Fixed			1	1			
Key buzzer volume setting	Fixed					0	1	1
Speaker volume setting	Level1					0	1	1
	Level2					0	0	1
	Level3					1	1	0
	Level4					0	1	0
	Level5					1	0	0
Ringer volume setting	Low					1	1	1
	Middle					0	0	1
	High					0	0	0
DTMF speaker volume setting	Level1					1	0	1
	Level2					1	0	1
	Level3					1	0	1
	Level4					1	0	1
	Level5					1	0	1
OGM playback speaker volume setting	Level1					0	0	1
	Level2					1	1	0
	Level3					0	1	0
	Level4					1	0	0
	Level5					0	0	0
ICM record speaker volume setting	Level1					0	0	1
	Level2					1	1	0
	Level3					0	1	0
	Level4					1	0	0
	Level5					0	0	0

[Other signals]

Signal Name	Function
TEL IN	Receiving signal from line or modem
SPOUT	Speaker output signal
TXOUT	Transmission (DTMF) analog signal output from modem
RXIN	Reception (DTMF, others) analog signal input into modem
TEL OUT	Voice input to Modem from handset

NO	Signal Name (CNLIUA)	NO	Signal Name (CNLIUA)
1	+24V	7	TELOUT
2	DG	8	TXOUT
3	MICMUTE	9	CML
4	TELIN	10	CI
5	TELMUTE	11	HS-
6	RXIN	12	RHS-

[Signals for status recognition according to input signals]

Signal Name	Function
$\overline{\text{RHS}}$	H:The handset is in the on-hook state. L: The handset is in the off-hook state.
CI	Incoming call (CI) detection signal
$\overline{\text{HS}}$	H: The handset and external telephone is in the on-hook state. L: The handset and external telephone is in the off-hook state.

(Example: SENDING/RECEIVING)

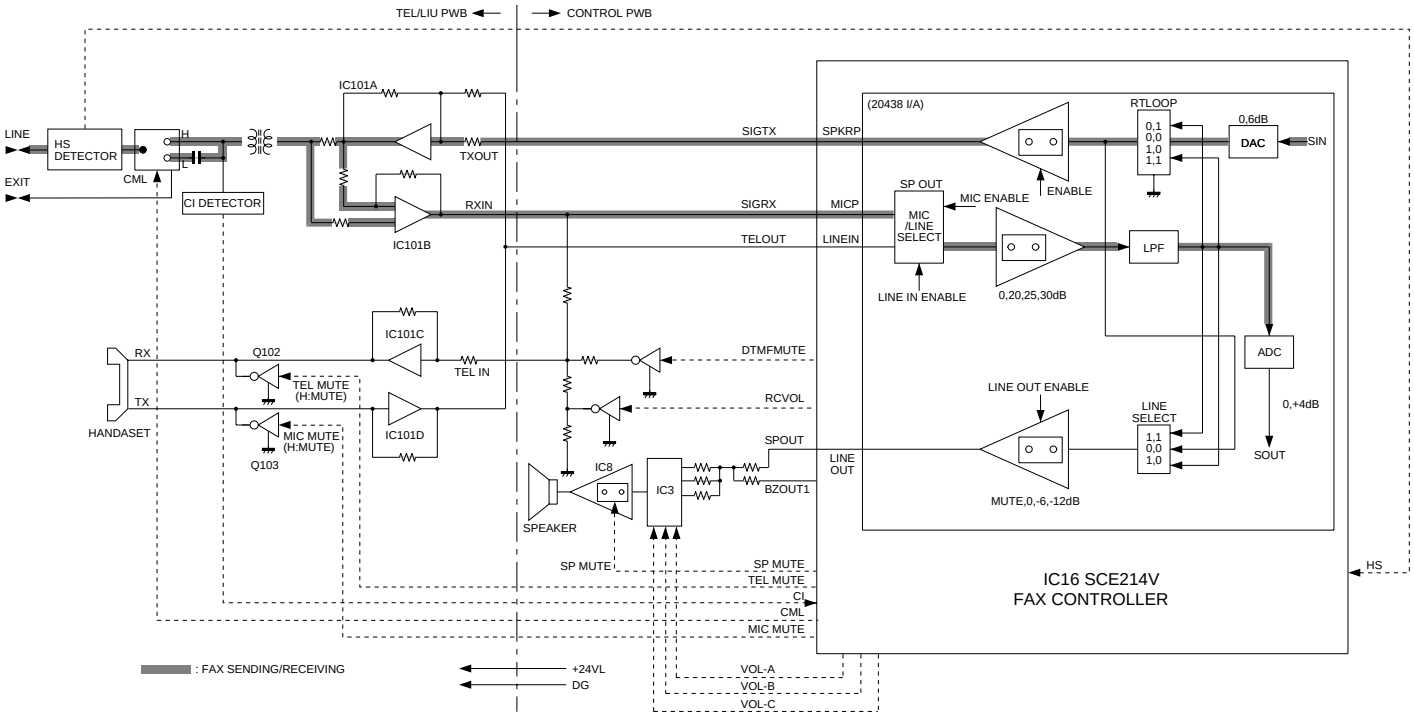


Fig. 8

[4] Circuit description of Printer PWB

1. Block diagram

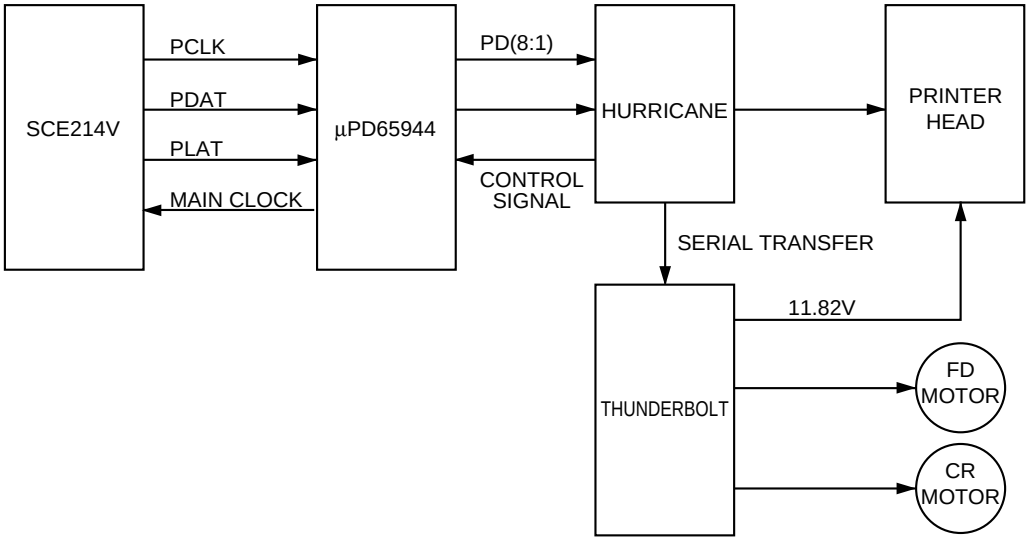


Fig. 8

2. Circuit description

The printer control unit consists of a printer controller ASIC (IC1:Hurricane), printer controller CPU bus connection ASIC(With control PWB), and analog ASIC(IC3: Thunderbolt) with a built-in motor driver and head voltage generating circuit.

1) Hurricane(IC1): (RH-IX2314XHZZ)

This is ASIC where CPU(ARM7) of 32-bit RISC works as its core and peripheral features are integrated. It is also equipped with the firmware ROM, buffer ROM, and IEEE1284 parallel port interface. Data communication with the main controller is performed via Alcore ASIC. Data from Alcore ASIC is transferred to the controller in the compatible mode or ECP mode of IEEE1284, and the controller sends the status of the printer in the nibble mode. The operating frequency is 24 MHz.

2) Thunderbolt(IC3): pin-44 PLCC(VHIPC901054-1)

Motor drivers of the FD and CR motors, and head voltage(11.82V) generating regulator of the printer carriage are integrated into this analog ASIC. Each motor control register is set by the one-way synchronous serial transfer via the printer controller, Hurricane.

Hurricane (IC1) Terminal descriptions

Block	Pin No.	Pin Name	I/O	Pin Description
Parallel Port	10	nSTRB	I	STROBE
	58	P_D0	I	DATA0
	54	P_D1	I	DATA1
	51	P_D2	I	DATA2
	46	P_D3	I	DATA3
	31	P_D4	I	DATA4
	26	P_D5	I	DATA5
	13	P_D6	I	DATA6
	9	P_D7	I	DATA7
	43	nACK	O	ACKNOWLEDGE
	39	BUSY	O	BUSY
	18	SELECT	O	SELECT
	7	nAUTOFD	I	AUTOFD
	4	nINIT	I	INIT
	21	PERROR	O	Printer ERROR
	6	nFAULT	O	FAULT
	2	nSELECTIN	I	SELECTIN
	19	BUF DIR	O	Not use
Head Driver	105	ACLK	O	Address Counter Clock
	106	AGATE	O	Resets Counter
	108	PCLK	O	Clock to Shift Serial P-line
	110	PData0	O	Serial P-line Data0
	111	PData1	O	Serial P-line Data1
	113	PData2	O	Serial P-line Data2
	114	PData3	O	Serial P-line Data3
	117	PLOAD	O	Latch P-line Data
	118	PENABLE	O	Enable L-line
	125	LoadHtrCS	O	Latch Substrate Heater and Printhead Select Status
	123	LatchCtrlNibble	O	Latch Control Nibble Value
	126	OK2PRT	I	Indicating either P-line shorts or BH/CH over current
	120	En Ph0	I	Printhead ID1
	122	En Ph1	I	Printhead ID2
Sensor	128	SNR_ChA	I	Encoder channel A
	130	SNR_ChB	I	Encoder channel B
	56	SNR_Paper	I	Paper in Sensor
	49	SNR_Cover	I	Not use
	74	GPIO_0	I	Not use
	75	GPIO_1	I	Cover Sensor
Switch	202	SW_paper	I	Not use
	203	SW_power	I	Not use
LED	205	LED_paper	O	Not use
	207	LED_power	O	Not use
USB	62	USB_D+	I/O	Not use
	61	USB_D–	I/O	Not use
	68	USB_PullUp	O	Not use
	59	USB_Vbus	I	Not use
EEPROM	70	I2C_SDA	I/O	EEPROM Serial Data
	71	I2C_SCK	O	EEPROM Serial Clock

Block	Pin No.	Pin Name	I/O	Pin Description
JTAG	93	JTAGE_nTRESET	I	JTAGE RESET
	94	JTAGE_TDin	I	JTAGE TDIN
	90	JTAGE_TModeSel	I	JTAGE TModeSel
	88	JTAGE_TClk	I	JTAGE TCLK
	85	JTAGE_TDout	O	JTAGE TDOUT
Motor Control	83	TB_nCS	O	Motor controller Chip Select
	84	TB_SCK	O	Motor controller Serial Clock
	86	TB_SDI	O	Motor controller Serial Date
	61	DCM_PWM	O	DC Motor Driver PWM
CLK	91	Xin	I	Clock 48MHz in
	92	Xout	O	Clock 48MHz out
	98	Loop out	O	48MHz out
	44	SSCG_nRESET	I	Not use
	47	Bypass	I	Not use
FLASH INTERFACE	161	ROM_nCE	O	FLASH ROM Chip Select
	154	ROM_nOE	O	FLASH ROM Output Enable
	159	ROM_nWE	O	FLASH ROM Write Enable
	27	EXT_ROM	I	External ROM Select
	3	A00	O	Address 00
	5	A01	O	Address 01
	8	A02	O	Address 02
	11	A03	O	Address 03
	12	A04	O	Address 04
	15	A05	O	Address 05
	17	A06	O	Address 06
	20	A07	O	Address 07
	28	A08	O	Address 08
	30	A09	O	Address 09
	33	A10	O	Address 10
	36	A11	O	Address 11
	38	A12	O	Address 12
	41	A13	O	Address 13
	48	A14	O	Address 14
	50	A15	O	Address 15
	55	A16	O	Address 16
	63	A17	O	Address 17
	64	A18	O	Address 18
	67	A19	O	Address 19
	69	A20	O	Address 20
	72	A21	O	Address 21
	75	A22	O	Address 22
	82	A23	O	Address 23
	102	D0	I/O	Data 00
	107	D1	I/O	Data 01
	109	D2	I/O	Data 02
	112	D3	I/O	Data 03
	115	D4	I/O	Data 04
	116	D5	I/O	Data 05
	124	D6	I/O	Data 06
	127	D7	I/O	Data 07

Hurricane (IC1) Terminal descriptions

Block	Pin No.	Pin Name	I/O	Pin Description
FLASH INTERFACE	129	D8	I/O	Data 08
	132	D9	I/O	Data 09
	134	D10	I/O	Data 10
	137	D11	I/O	Data 11
	140	D12	I/O	Data 12
	146	D13	I/O	Data 13
	149	D14	I/O	Data 14
	152	D15	I/O	Data 15
DRAM	170	DRAM_nRAS	O	DRAM Row Address Strobe
	174	DRAM_nLCAS	O	DRAM Lower Column Address Strobe
	172	DRAM_nUCAS	O	DRAM Upper Column Address Strobe
	175	DRAM_nWE	O	DRAM Write Enable
	177	DRAM_nOE	O	DRAM Output Enable
	195	DRAM_A0	O	DRAM Address 0
	196	DRAM_A1	O	DRAM Address 1
	199	DRAM_A2	O	DRAM Address 2
	200	DRAM_A3	O	DRAM Address 3
	190	DRAM_A4	O	DRAM Address 4
	188	DRAM_A5	O	DRAM Address 5
	187	DRAM_A6	O	DRAM Address 6
	185	DRAM_A7	O	DRAM Address 7
	183	DRAM_A8	O	DRAM Address 8
	178	DRAM_A9	O	DRAM Address 9
	144	DRAM_D00	I/O	DRAM Data 00
	147	DRAM_D01	I/O	DRAM Data 01
	151	DRAM_D02	I/O	DRAM Data 02
	153	DRAM_D03	I/O	DRAM Data 03
	163	DRAM_D04	I/O	DRAM Data 04
	165	DRAM_D05	I/O	DRAM Data 05
	166	DRAM_D06	I/O	DRAM Data 06
	169	DRAM_D07	I/O	DRAM Data 07
	158	DRAM_D08	I/O	DRAM Data 08
	157	DRAM_D09	I/O	DRAM Data 09
	156	DRAM_D10	I/O	DRAM Data 10
	155	DRAM_D11	I/O	DRAM Data 11
	143	DRAM_D12	I/O	DRAM Data 12
	141	DRAM_D13	I/O	DRAM Data 13
	139	DRAM_D14	I/O	DRAM Data 14
	138	DRAM_D15	I/O	DRAM Data 15
ARM	164	ARM_nRW	O	Not use
	171	ARM_BL0	O	Not use
	173	ARM_BL1	O	Not use
	176	ARM_BL2	O	Not use
	179	ARM_BL3	O	Not use
	181	ARM_MAS0	O	Not use
	184	ARM_MAS1	O	Not use
	186	ARM_MClk	O	Not use
	189	ARM_nM0	O	Not use
	192	ARM_nM1	O	Not use
	194	ARM_nM2	O	Not use
	197	ARM_nM3	O	Not use
	198	ARM_nM4	O	Not use
	201	ARM_nMREQ	O	Not use
	204	ARM_nOPC	O	Not use
	206	ARM_nWait	O	Not use
RESET	40	nRESET	I	RESET
WATCHDOG	73	WATCHDOG	O	WATCHDOG
TEST PIN	29	Test1	I	TEST PIN
	35	Test2	I	TEST PIN
	37	Test3	I	TEST PIN

Hurricane BLOCK DIAGRAM

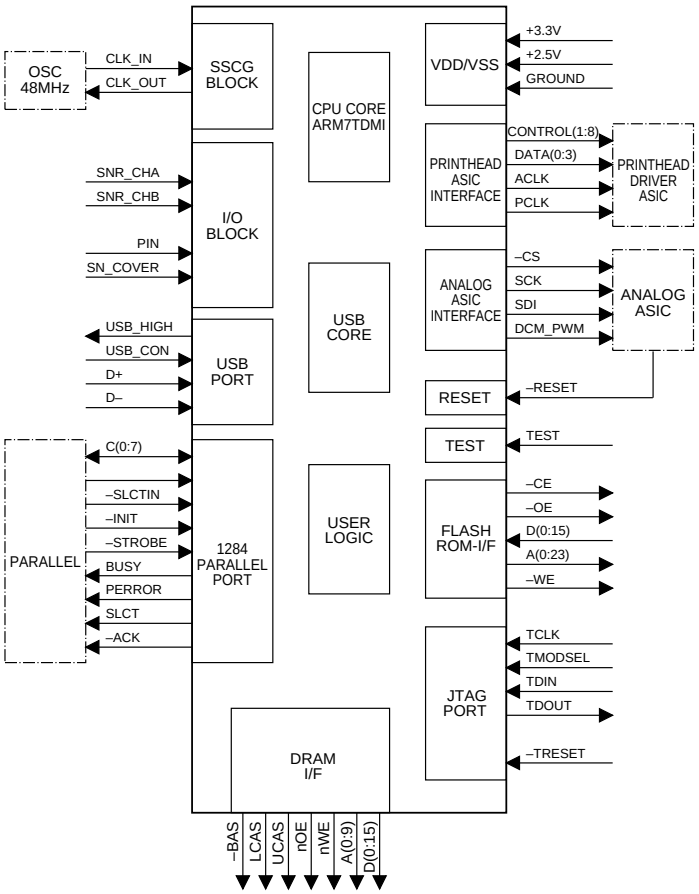


Fig. 9

[5] Circuit description of power supply PWB

1. Block diagram

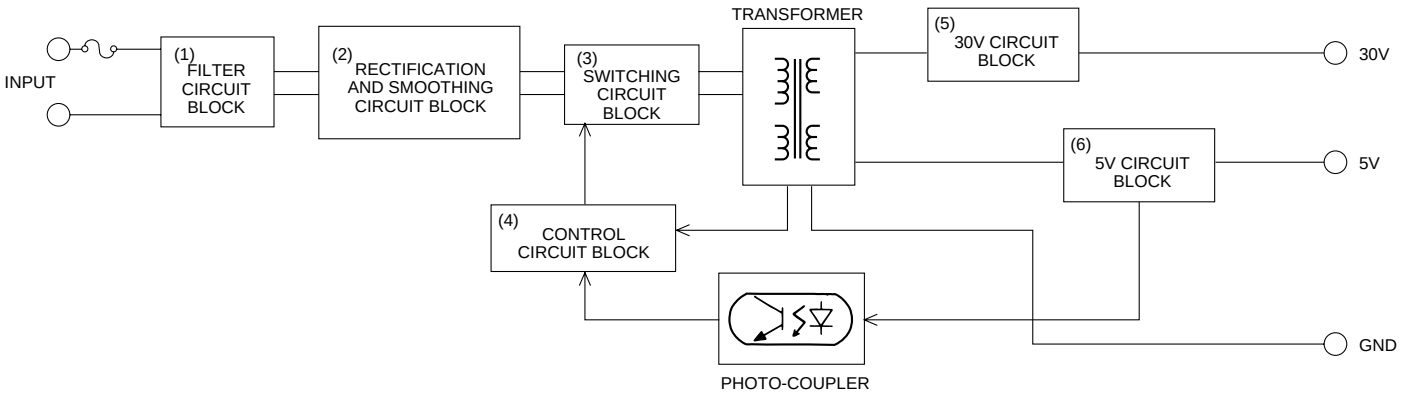


Fig. 10

This power supply unit has the function to convert the A110-120V(50/60Hz) to DC5V, and provide these outputs to the equipment.
The following explains the function of each block.

2-1. Filter circuit block

This circuit reduces the outgoing noise through the input lines which is generated in the power supply unit, and prevents the invasion of the noise from the lines. (the excessive surge such as the thunder is prevented by the varistor(Z1).)

2-2. Rectification and smoothing circuit block

This circuit rectifies and smoothes the AC input, and provides the DC voltage to the switching circuit block.

2-3. Switching circuit block

This circuit converts the DC voltage(provided from the Rectification and smoothing circuit block) to the high-frequency pulse voltage by FET(Q1)'s switching (on/off repeat), and provides the energy to the transformer(T1). It discharges the energy(charged during the FET ON time) to the secondary side during the FET OFF time through the secondary windings. The output voltages on the secondary side provided by the energy depend on the ratio of the winding turns (primary : secondary) etc.

2-4. Control circuit block

This circuit block controls the output voltage by transmitting the detected 5V voltage to the primary control circuit through the photo-coupler(PC1). In case of the over-current, this circuit reduces providing the energy to the transformer. In case of the over-voltage, this circuit reduces providing the energy to the transformer by letting the Power-Zener(D104; connected between the 30V output voltage and GND) into the short mode and letting the over-current protection circuit work.

2-5. 30V output circuit block

This circuit block rectifies and smoothes the high-frequency pulse voltage provided by the transformer, and provides the DC 30V output to the equipment.

2-6. 5V output circuit block

This circuit block rectifies and smoothes the high-frequency pulse voltage provided by the transformer, and provides the DC 5V output to the equipment. The output voltage is adjusted by the variable resistor(VR101).

[6] Circuit description of CIS unit

1. CIS

Cis is an image sensor which puts the original paper in close contact with the full-size sensor for scanning, being a monochromatic type with the pixel number of 1,728 dots and the main scanning density of 8 dots/mm.

It is composed of sensor, rod lens, LED light source, light-conductive plate, control circuit and so on, and the reading line and focus are previously adjusted as the unit.
Due to the full-size sensor, the focus distance is so short that the set is changed from the light weight type to the compact type.

2. Waveforms

The following clock is supplied from SCE214V of the control board, and VO is output.

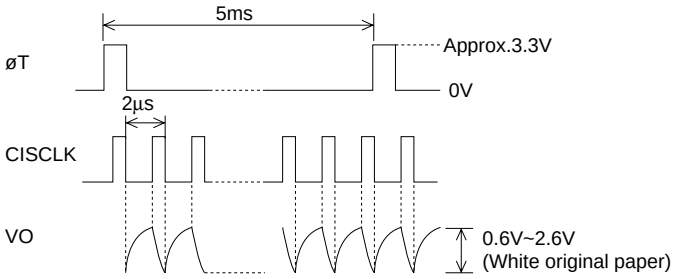
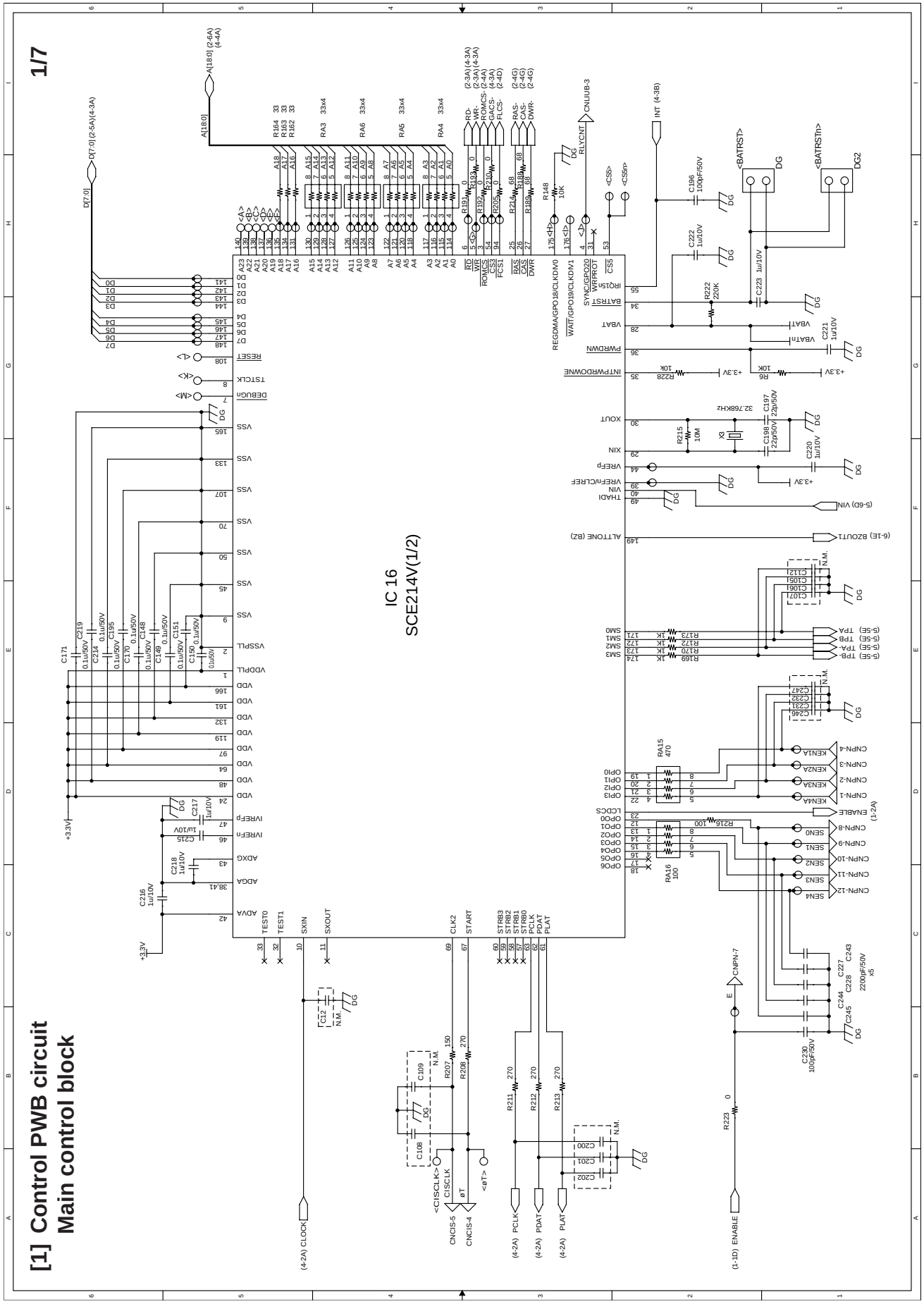
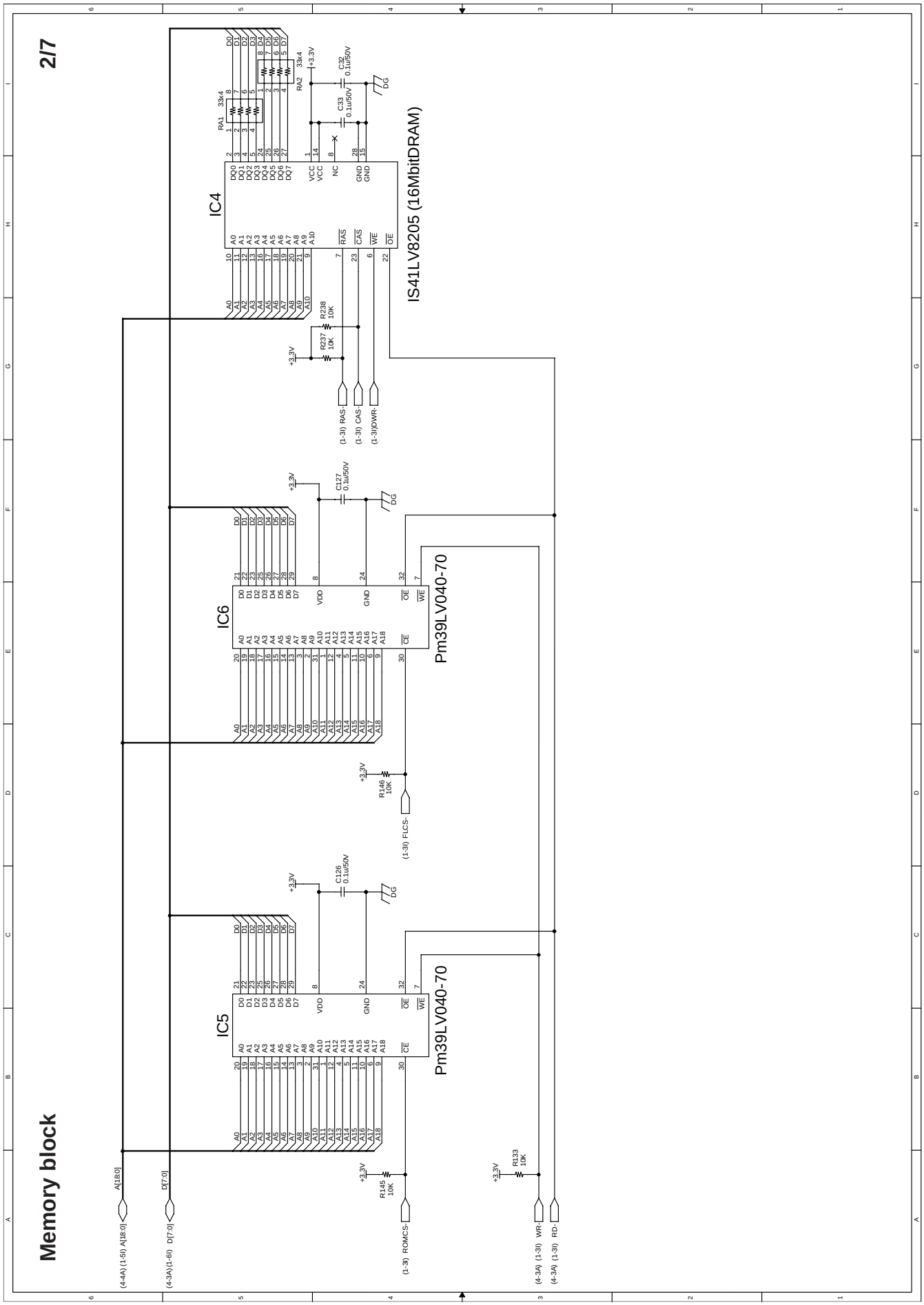
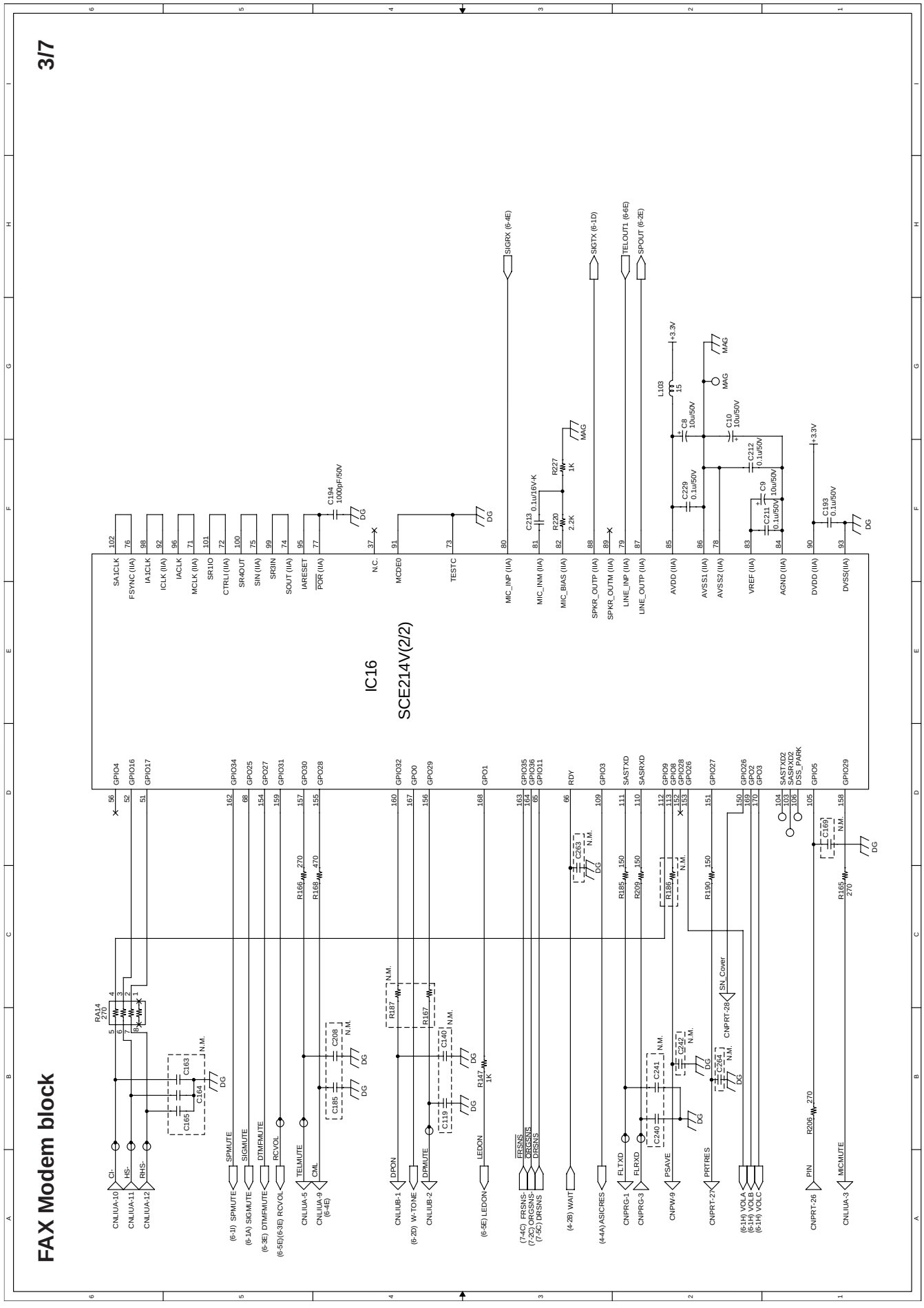


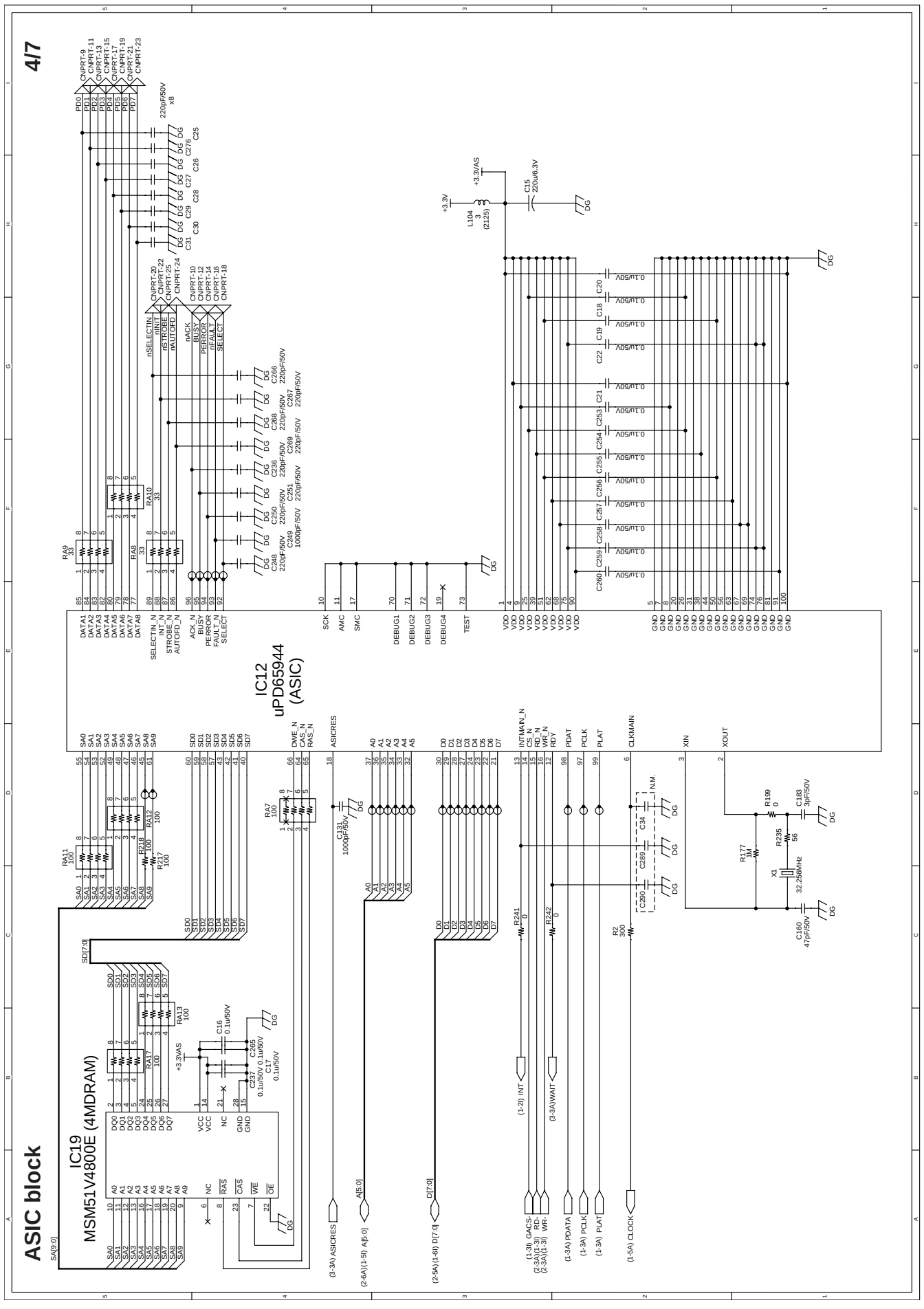
Fig. 11

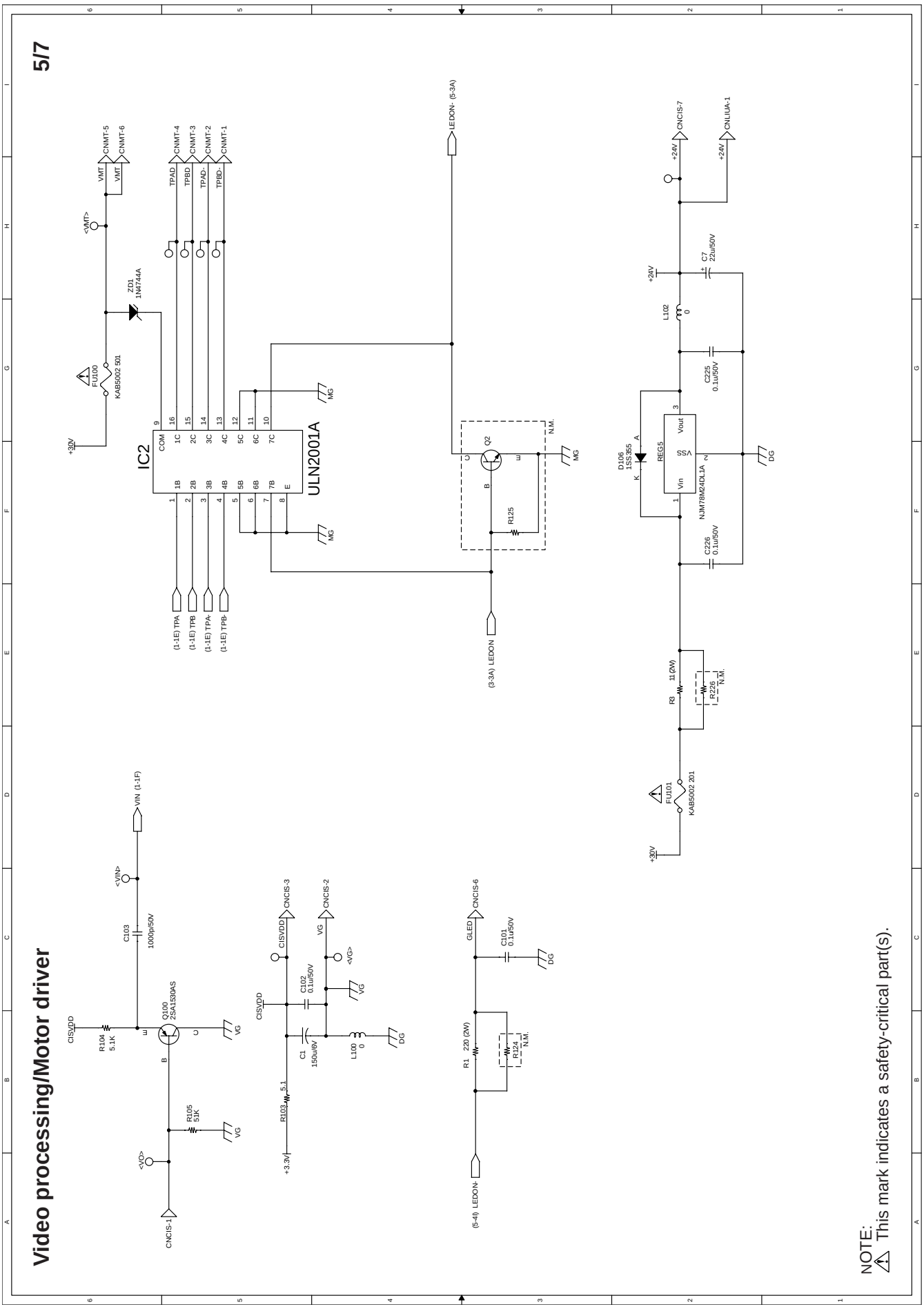
CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT

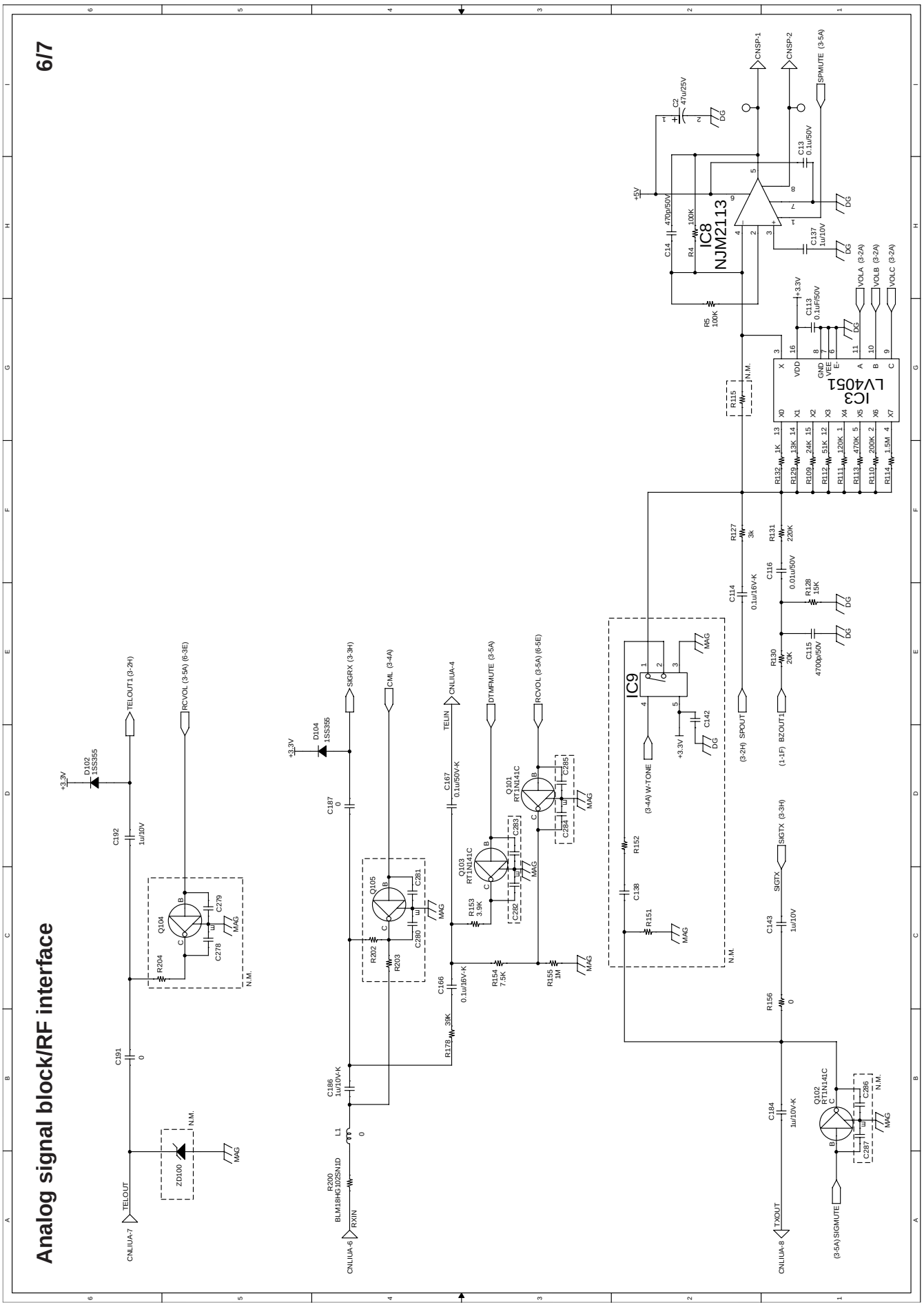


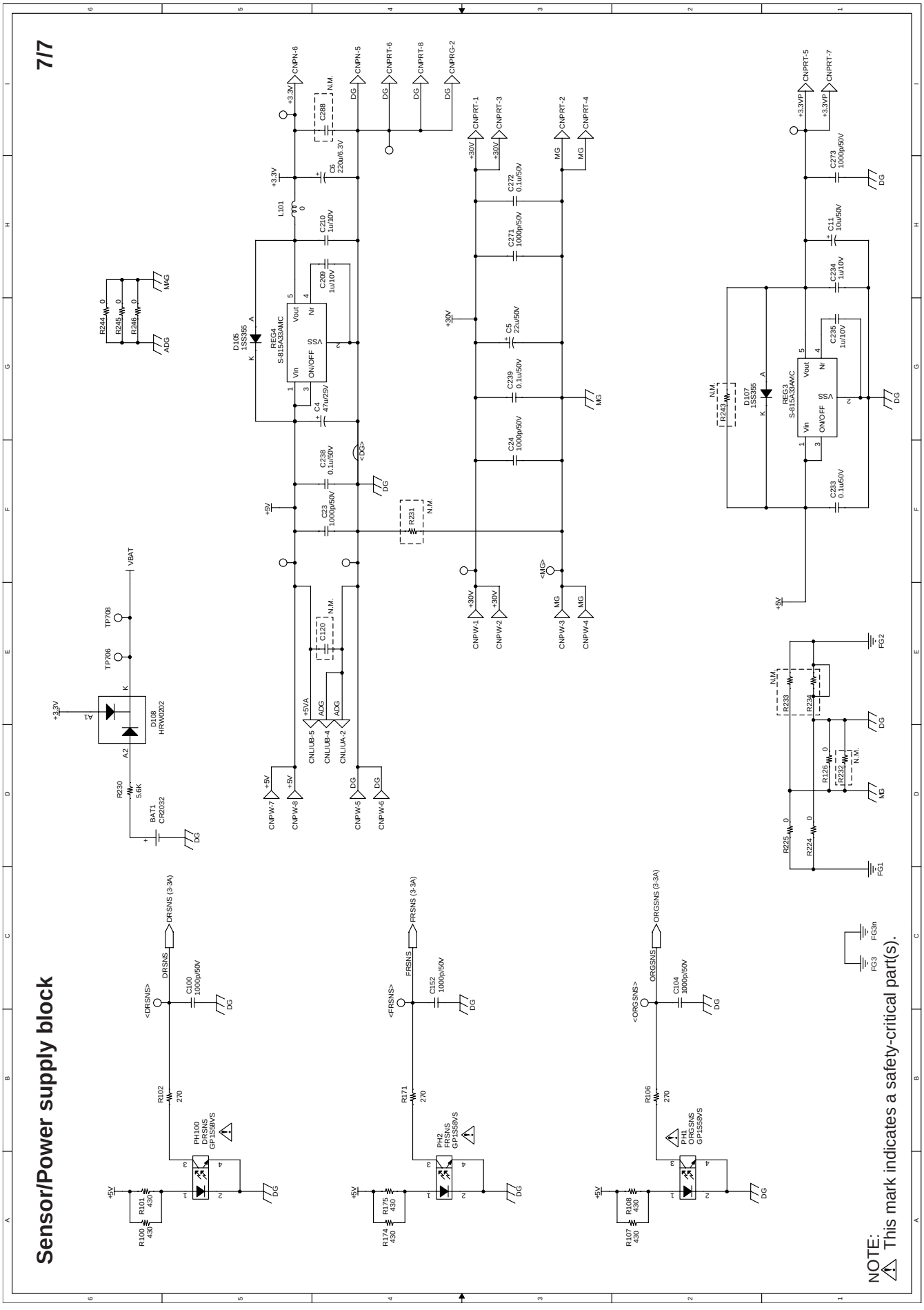

Memory block
2/7
IC4
IS41LV8205 (16MbitDRAM)
IC5
IC6
Pm39LV040-70
Pm39LV040-70
A[18:0]
D[7:0]
(4-4A) (1-5I) A[18:0]
(4-3A)(1-6I) D[7:0]
(1-3I) ROMCS-
(1-3I) RAS-
(1-3I) CAS-
(1-3I)DWR-
(1-3I) FLCS-
(4-3A) (1-3I) WR-
(4-3A) (1-3I) RD-
+3.3V
DG
R145 10K
R133 10K
R146 10K
R237 10K
R238 10K
C126 0.1u/50V
C127 0.1u/50V
C32 0.1u/50V
C33 0.1u/50V
RA1 33x4
RA2 33x4


FAX Modem block
3/7
IC16
SCE214V(2/2)
CNLIUA-10
CNLIUA-11
CNLIUA-12
CNLIUA-5
CNLIUA-9
CNLIUB-1
CNLIUB-2
CNPRG-1
CNPRG-3
CNPW-9
CNPRT-27
CNPRT-26
CNLIUA-3
(6-1I) SPMUTE
(6-1A) SIGMUTE
(6-3E) DTMFMUTE
(6-5E)(6-3E) RCVOL
(6-4E)
(6-2D) W-TONE
(6-5E) LEDON
(7-4C) FRSNS
(7-2C) ORGSNS
(7-3C) DRSNS
(4-2B) WAIT
(4-4A) ASICRES
(6-1H) VOLA
(6-1H) VOLB
(6-1H) VOLC
SA3CLK
FSYNC (IIA)
IA3CLK
ICLK (IIA)
IACLK
MCLK (IIA)
SR1IO
CTRLI (IIA)
SR4OUT
SIN (IIA)
SR3IN
SOUT (IIA)
IARESET
N.C.
MCDE0
TESTC
MIC_INP (IIA)
MIC_INM (IIA)
MIC_BIAS (IIA)
SPKR_OUTP (IIA)
SPKR_OUTM (IIA)
LINE_INP (IIA)
LINE_OUTP (IIA)
AVDD (IIA)
AVSS1 (IIA)
AVSS2 (IIA)
VREF (IIA)
AGND (IIA)
DVDD (IIA)
DVSS(IIA)
SIGRX (6-4E)
SIGTX (6-1D)
TELOUT1 (6-6E)
SPOUT (6-2E)
+3.3V
MAG
SN_Cover
SASTXD2
SASRXD2
DSS_PARK
GPIO4
GPIO16
GPIO17
GPIO34
GPO25
GPO27
GPIO31
GPO30
GPO28
GPIO32
GPO0
GPO29
GPO1
GPIO35
GPIO36
GPIO11
RDY
GPIO3
SASTXD
SASRXD
GPIO9
GPIO8
GPIO28
GPO26
GPIO27
GPIO26
GPO2
GPO3
GPIO5
GPIO29
SPMUTE
SIGMUTE
DTMFMUTE
RCVOL
TELMUTE
CML
DPON
DPMUTE
LEDON
FRSNS
ORGSNS
DRSNS
FLTXD
FLRXD
PSAVE
PRTRES
PIN
MICMUTE
C194 1000pF/50V
C213 0.1u/16V-K
R220 2.2K
R227 1K
C229 0.1u/50V
C9 10u/50V
C10 10u/50V
C212 0.1u/50V
C211 0.1u/50V
C193 0.1u/50V
L103 15
RA14 270
R166 270
R168 470
R147 1K
R185 150
R209 150
R190 150
R165 270
R206 270
C165
C164
C163
C208
C185
C187
C167
C140
C119
C245
C241
C240
C242
C264
C169
DG
N.M.

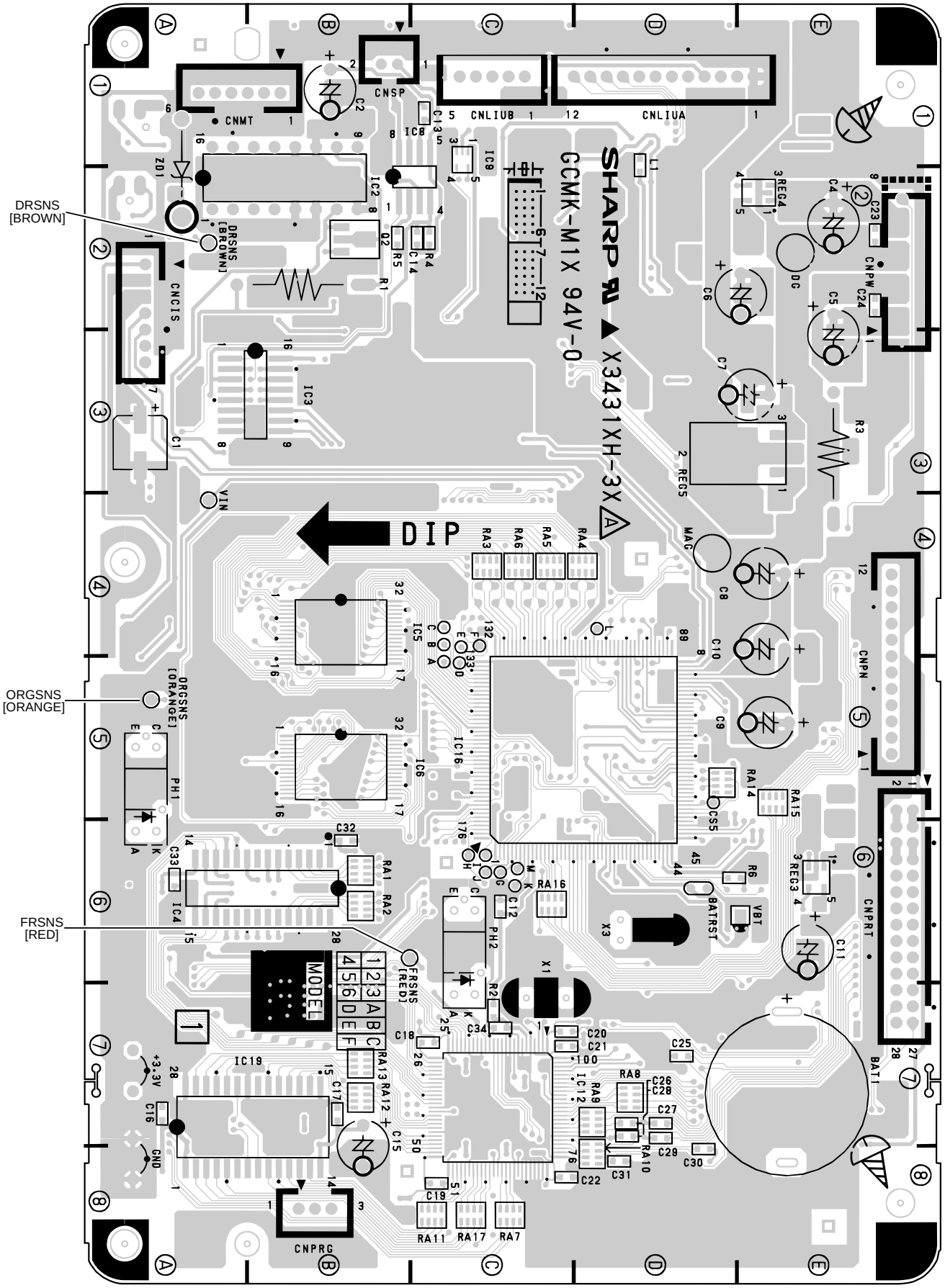

4/7
ASIC block
IC19
MSM51V4800E (4MDRAM)
IC12
uPD65944
(ASIC)
SA[9:0]
SD[7:0]
A[5:0]
D[7:0]
(3-3A) ASICRES
(2-6A)(1-5I) A[5:0]
(2-5A)(1-6I) D[7:0]
(1-3I) GACS-
(2-3A)(1-3I) RD-
(2-3A)(1-3I) WR-
(1-3A) PDATA
(1-3A) PCLK
(1-3A) PLAT
(1-5A) CLOCK
(1-2I) INT
(3-3A)WAIT
+3.3VAS
+3.3V
L104
3
(2125)
C15
220u/6.3V
220pF/50V x8
0.1u/50V
DG
XIN
XOUT
X1
32.256MHz
R177
1M
R235
56
R199
0
C183
3pF/50V
C160
47pF/50V
C289
C290
C34
N.M.
R2
300
R241
0
R242
0
C131
1000pF/50V
C16
0.1u/50V
C17
0.1u/50V
C18
C19
C20
C21
C22
C253
C254
C255
C256
C257
C258
C259
C260
RA7
RA8
RA9
RA10
RA11
RA12
RA13
RA17
R217
R218
C248
C249
C250
C251
C236
C268
C269
C267
C266
C276
C25
C26
C27
C28
C29
C30
C31
CNPRT-9
CNPRT-11
CNPRT-13
CNPRT-15
CNPRT-17
CNPRT-19
CNPRT-21
CNPRT-23
CNPRT-20
CNPRT-22
CNPRT-25
CNPRT-24
CNPRT-10
CNPRT-12
CNPRT-14
CNPRT-16
CNPRT-18
220pF/50V
1000pF/50V


5/7
Video processing/Motor driver
NOTE:
⚠ This mark indicates a safety-critical part(s).
IC2
ULN2001A
COM
1B
2B
3B
4B
5B
6B
7B
E
1C
2C
3C
4C
5C
6C
7C
Q2
Q100
2SA1530AS
Q101
2SC3906
ZD1
1N4744A
D106
1SS385
REG5
NJM78M24DL1A
Vin
Vout
FU100
KAB5002 501
FU101
KAB5002 201
R104 5.1K
R105 51K
R103 5.1
R125
R1 220 (2W)
R2 11 (2W)
R124 N.M.
R226 N.M.
C103 1000p/50V
C102 0.1u/50V
C1 150u/6V
C101 0.1u/50V
C225 0.1u/50V
C226 0.1u/50V
C7 22u/50V
L100 0
L102 0
CISVDD
VG
DG
MG
+3.3V
+30V
+24V
VMT
TPAD
TPBD
TPAD-
TPBD-
GLED
LEDON- (5-3A)
(3-3A) LEDON
(5-4) LEDON-
(1-1E) TPA
(1-1E) TPB
(1-1E) TPA-
(1-1E) TPB-
VIN (1-1F)
CNCIS-1
CNCIS-2
CNCIS-3
CNCIS-6
CNCIS-7
CNLILIA-1
CNMT-1
CNMT-2
CNMT-3
CNMT-4
CNMT-5
CNMT-6
N.M.

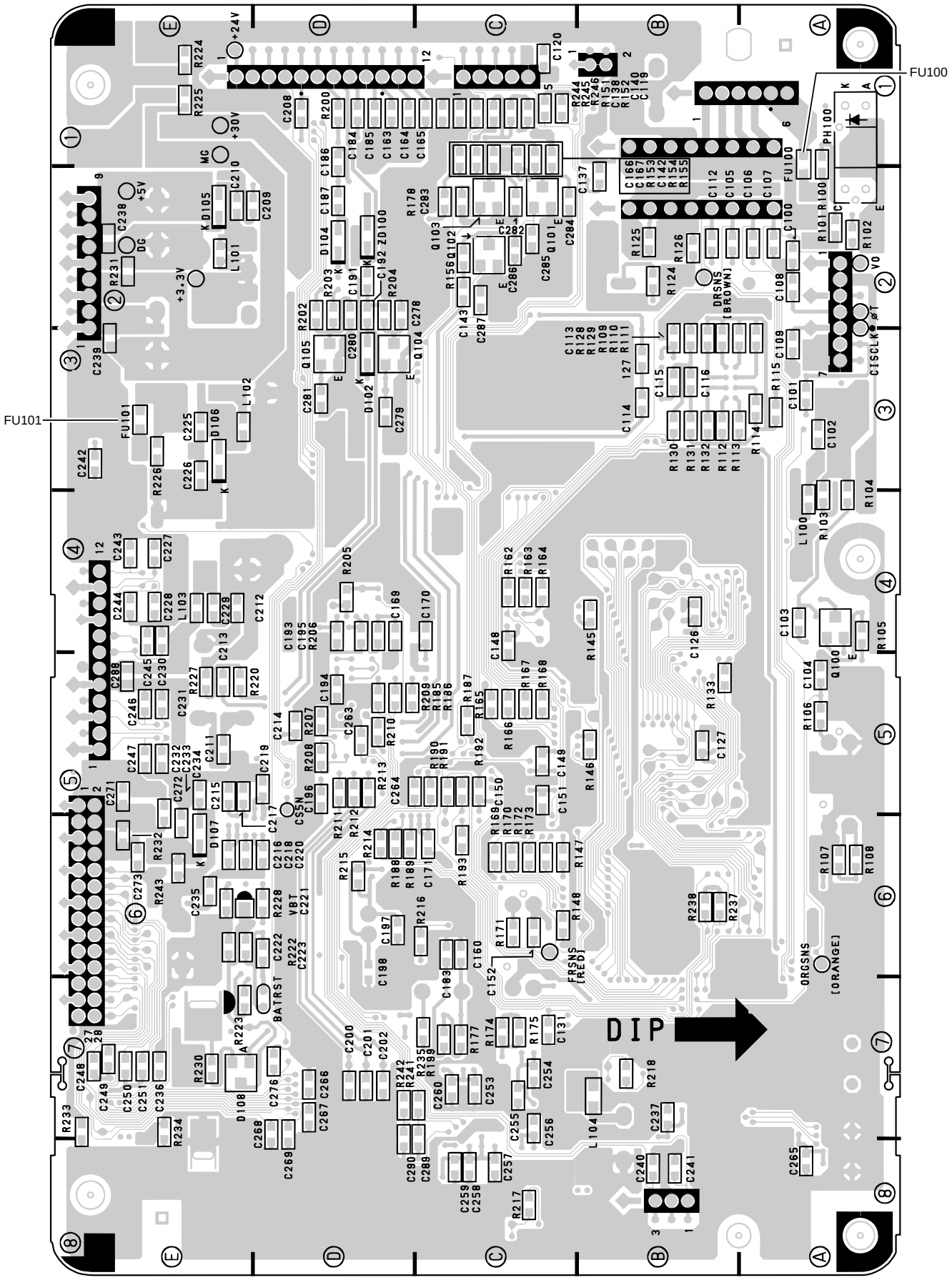

Analog signal block/RF interface
6/7
IC8
NJM2113
IC3
LV4051
IC9
Q101
RT1N141C
Q102
RT1N141C
Q103
RT1N141C
Q104
Q105
D102
1SS355
D104
1SS355
ZD100
L1
R200
BLM18HG102SN1D
TELOUT
CNLIUA-7
CNLIUA-6
RXIN
TELOUT1 (3-2H)
RCVOL (3-5A) (6-3E)
SIGRX (3-3H)
CML (3-4A)
CNLIUA-4
TELIN
DTMFMUTE (3-5A)
RCVOL (3-5A) (6-5E)
(3-4A) W-TONE
(3-2H) SPOUT
(1-1F) BZOUT1
SIGTX (3-3H)
SIGTX
TXOUT
CNLIUA-8
(3-5A) SIGMUTE
CNSP-1
CNSP-2
SPMUTE (3-5A)
VOLA (3-2A)
VOLB (3-2A)
VOLC (3-2A)
+3.3V
+5V
DG
MAG
N.M.

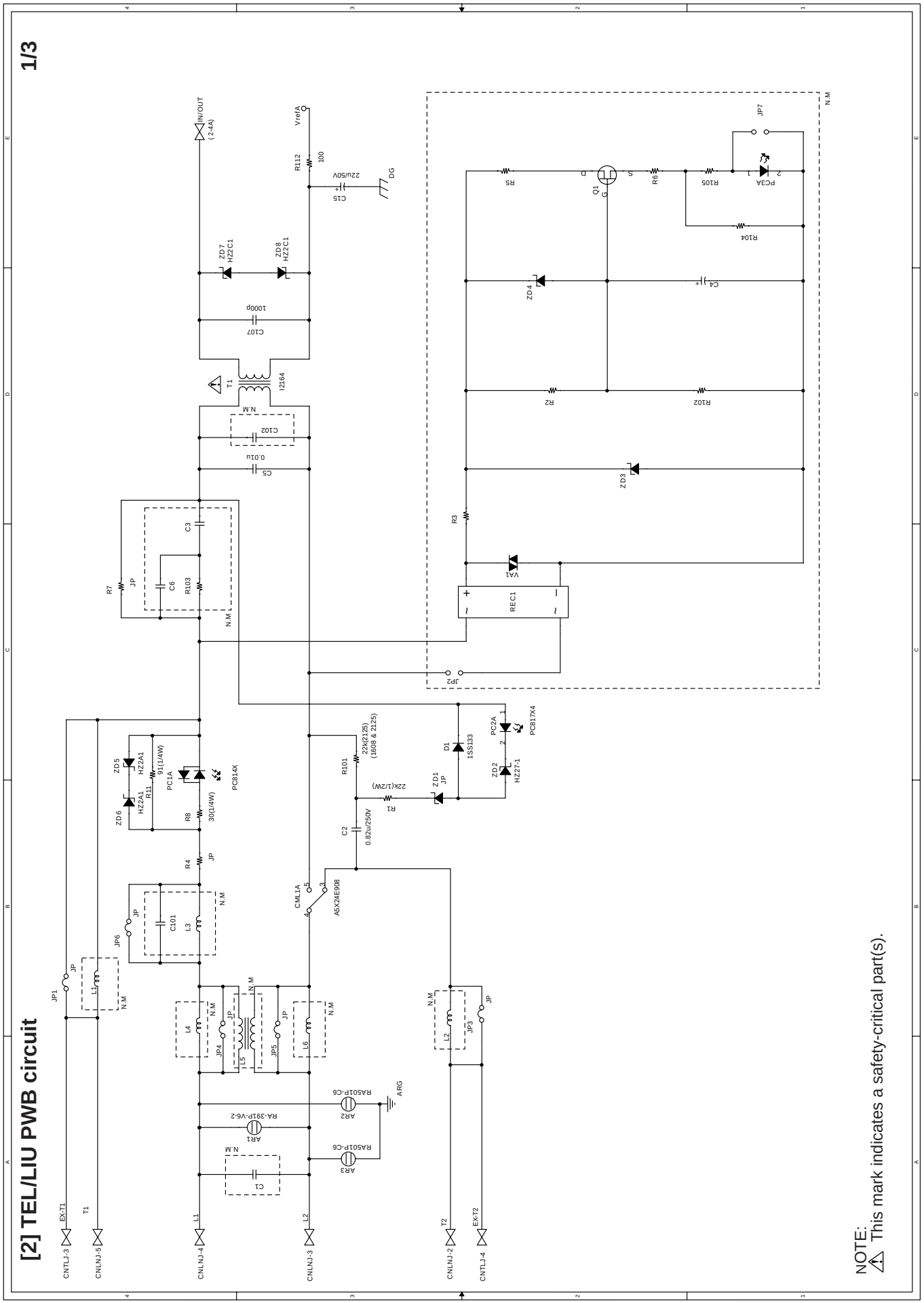

7/7
Sensor/Power supply block
NOTE:
⚠ This mark indicates a safety-critical part(s).

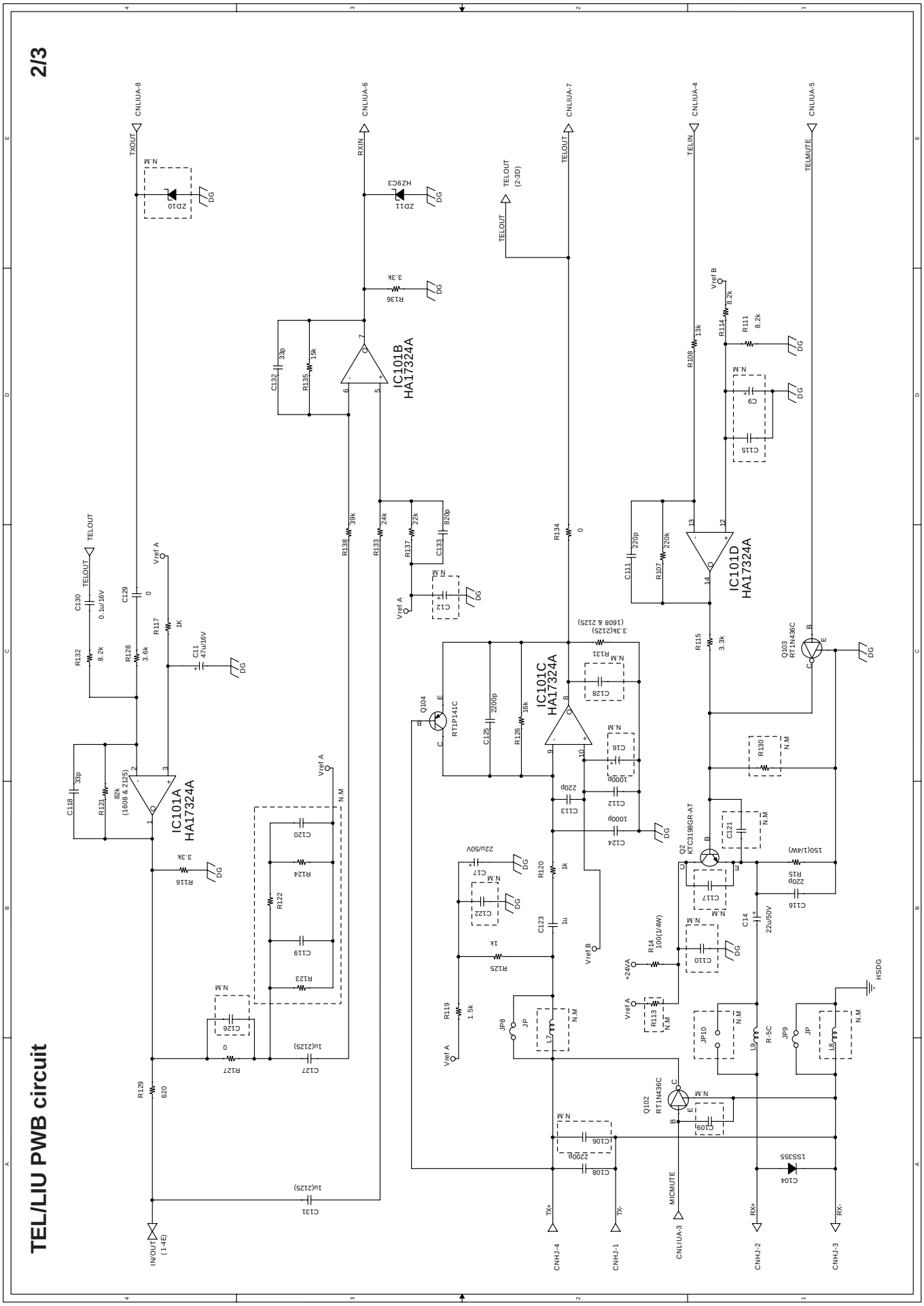
Control PWB parts layout (Top side)

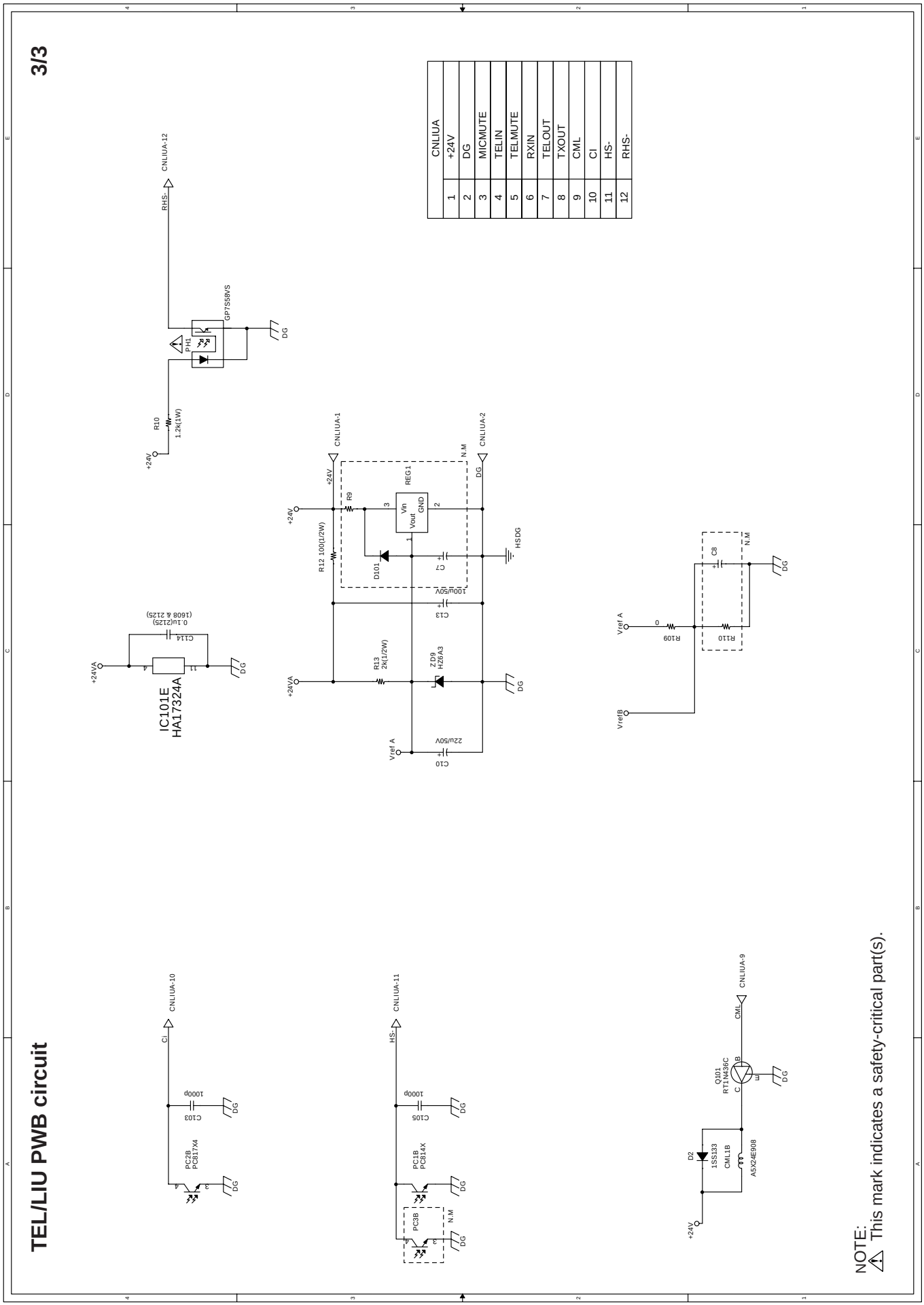


Control PWB parts layout (Bottom side)



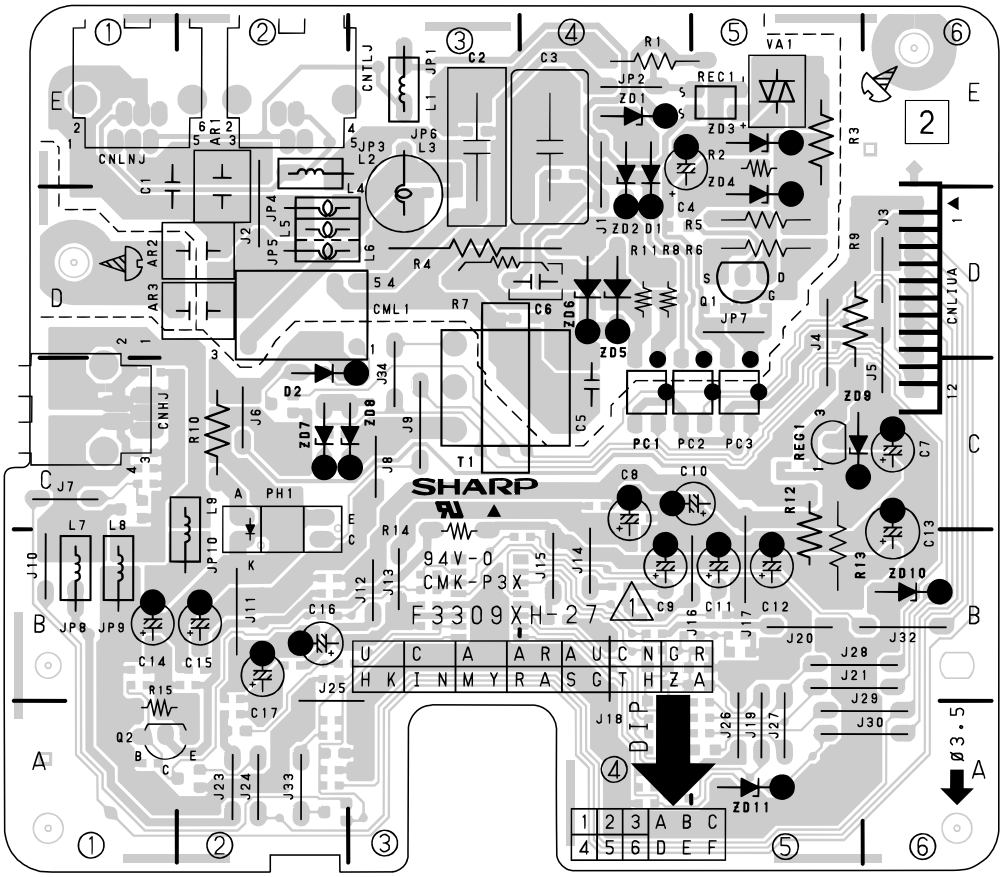

1/3
[2] TEL/LIU PWB circuit
NOTE:
⚠ This mark indicates a safety-critical part(s).


2/3
TEL/LIU PWB circuit
IC101A HA17324A
IC101B HA17324A
IC101C HA17324A
IC101D HA17324A
CNLIUA-8
CNLIUA-6
CNLIUA-7
CNLIUA-4
CNLIUA-5
CNLIUA-3
TXOUT
RXIN
TELOUT
TELIN
TELMUTE
MICMUTE
INOUT (1-4E)
CNHJ-4
CNHJ-1
CNHJ-2
CNHJ-3
TX+
TX-
RX+
RX-
HSDG
Vref A
Vref B
+24VA
DG
N.M

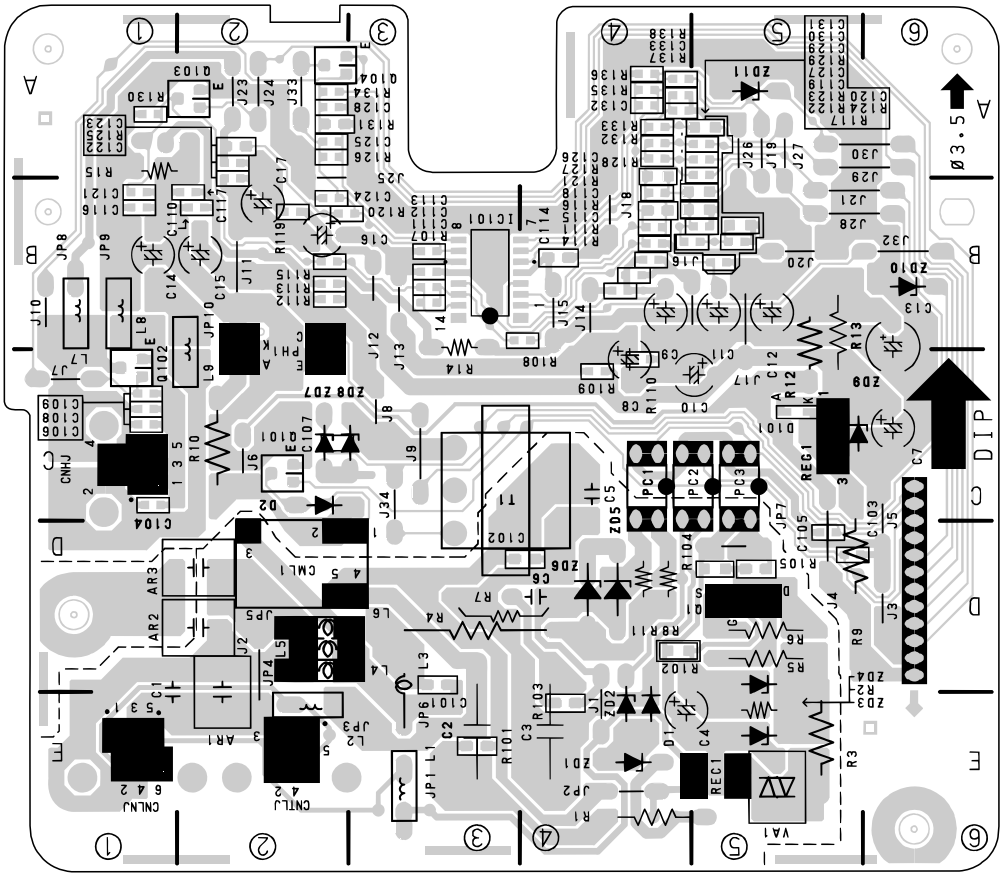


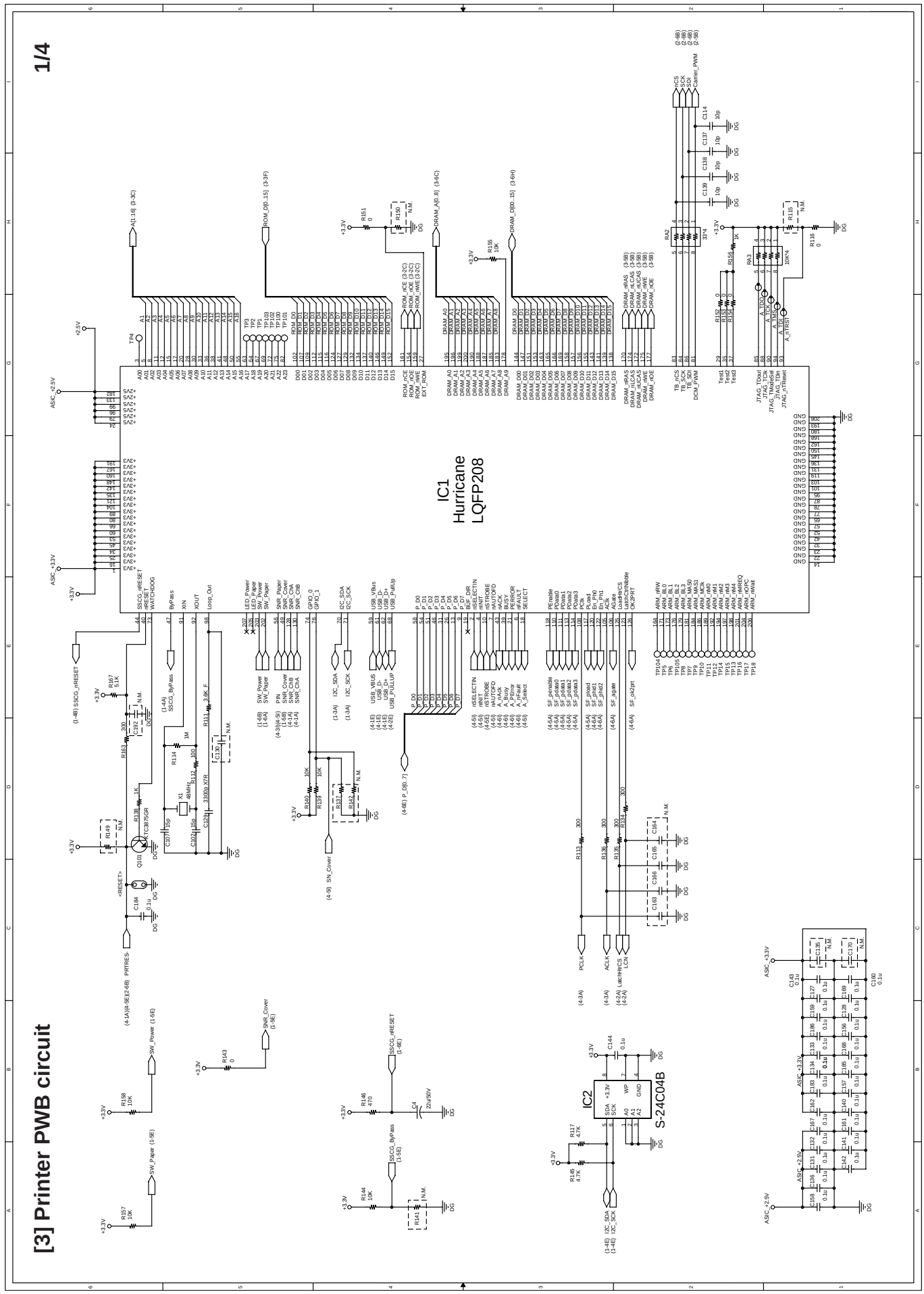
NOTE:
⚠ This mark indicates a safety-critical part(s).

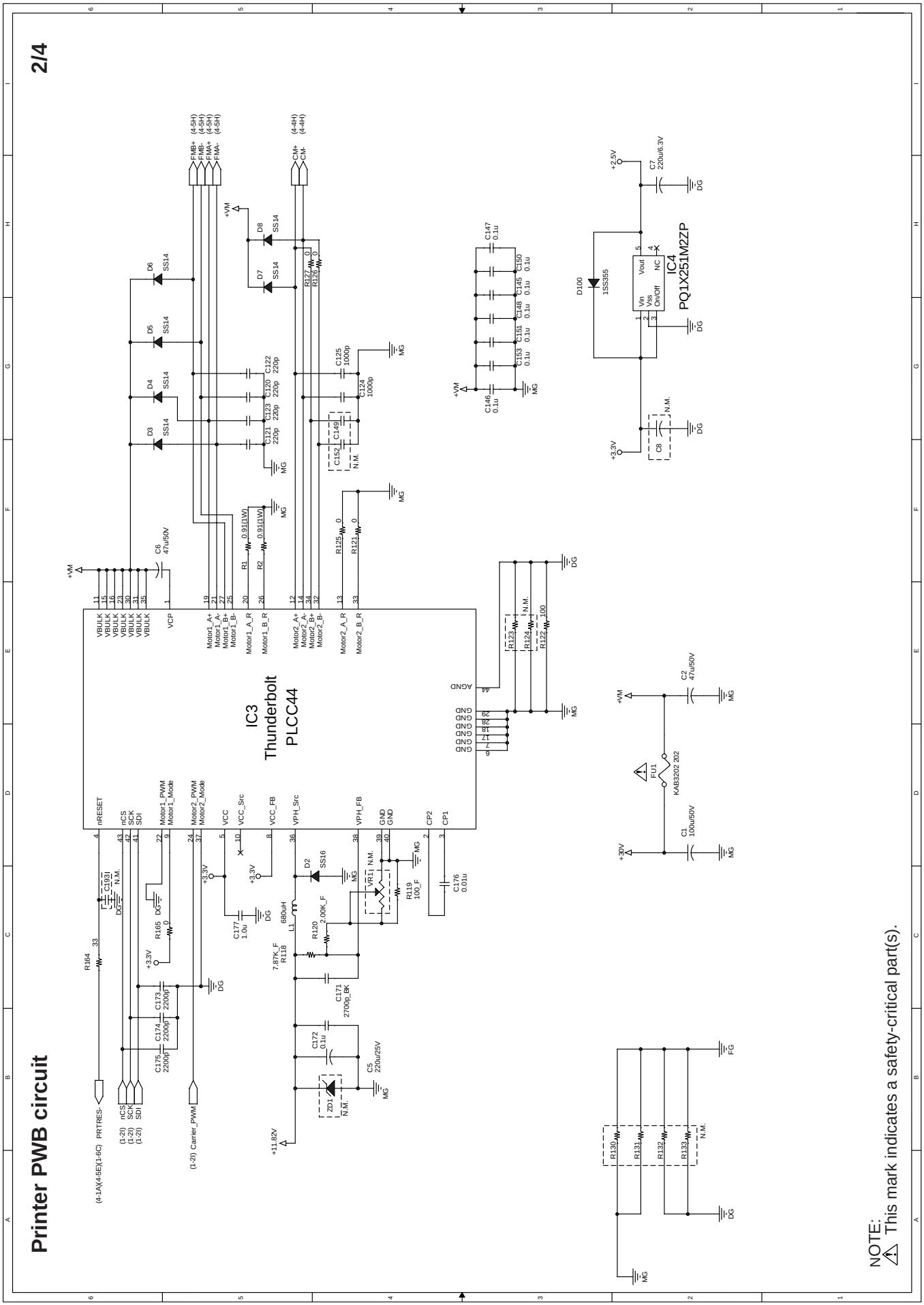
TEL/LIU PWB parts layout (Top side)



TEL/LIU PWB parts layout (Bottom side)

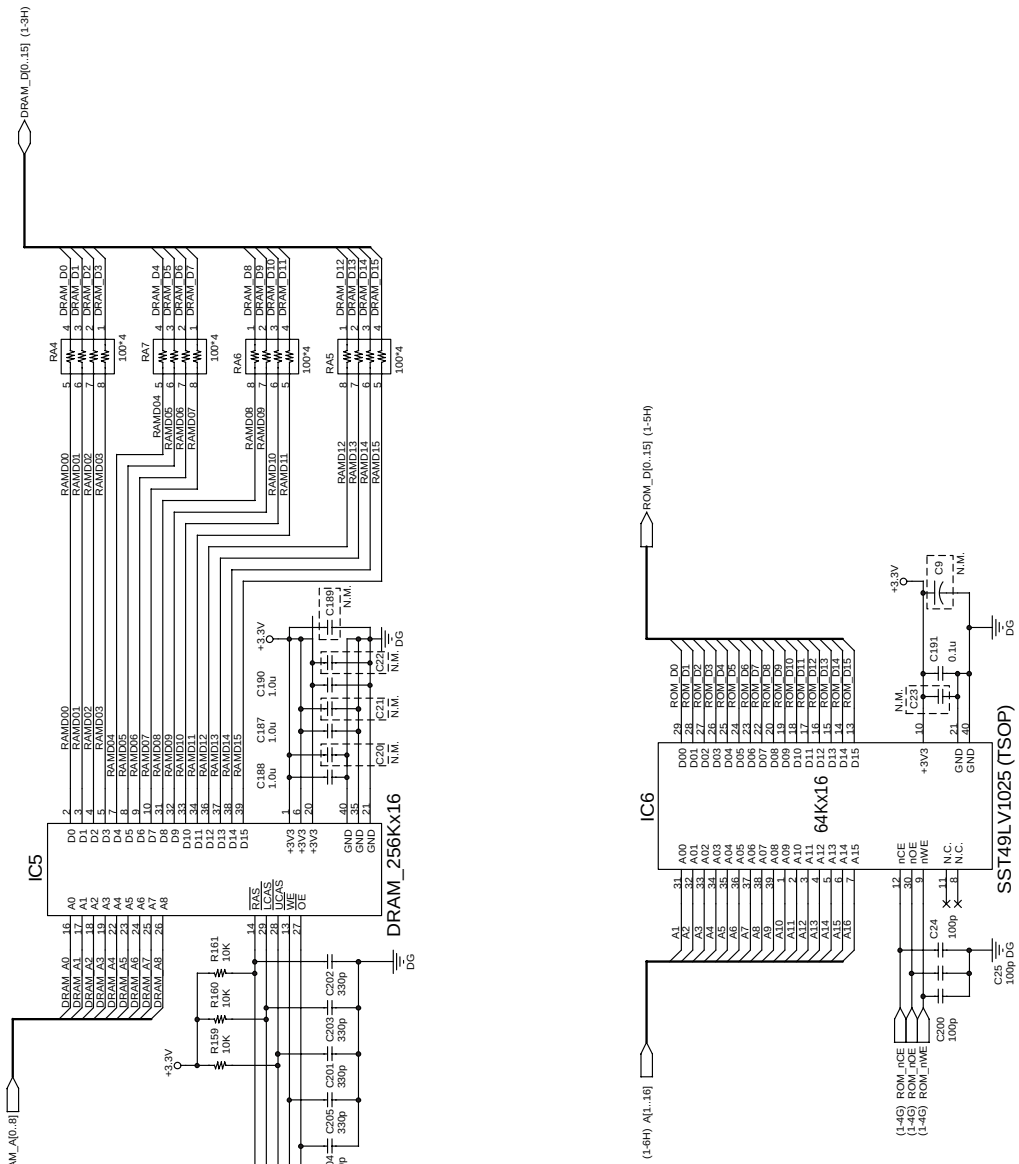


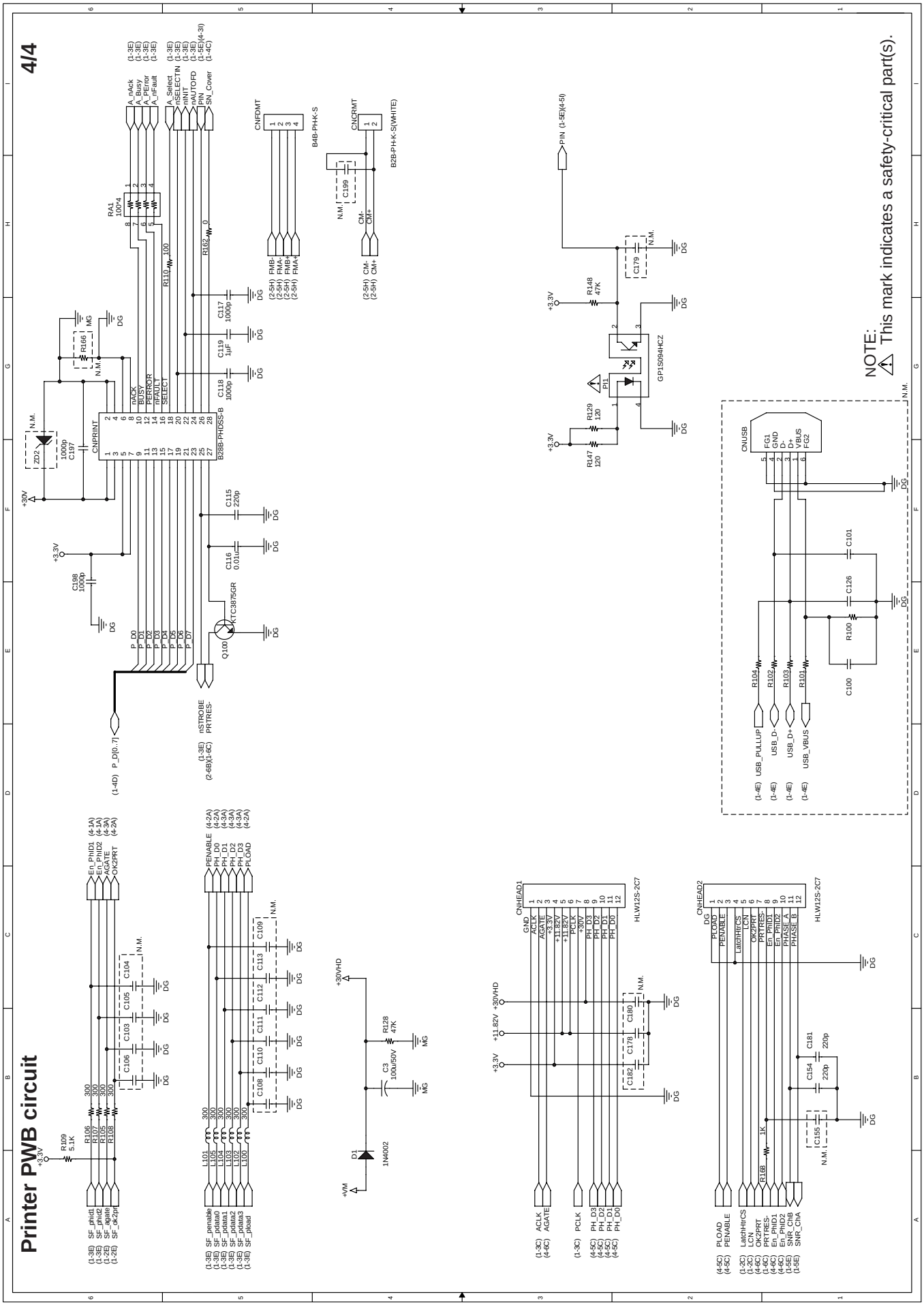

[3] Printer PWB circuit
1/4
IC1
Hurricane
LQFP208
IC2
S-24C04B


Printer PWB circuit
2/4
IC3
Thunderbolt
PLCC44
IC4
PQ1X251M2ZP
NOTE:
⚠ This mark indicates a safety-critical part(s).

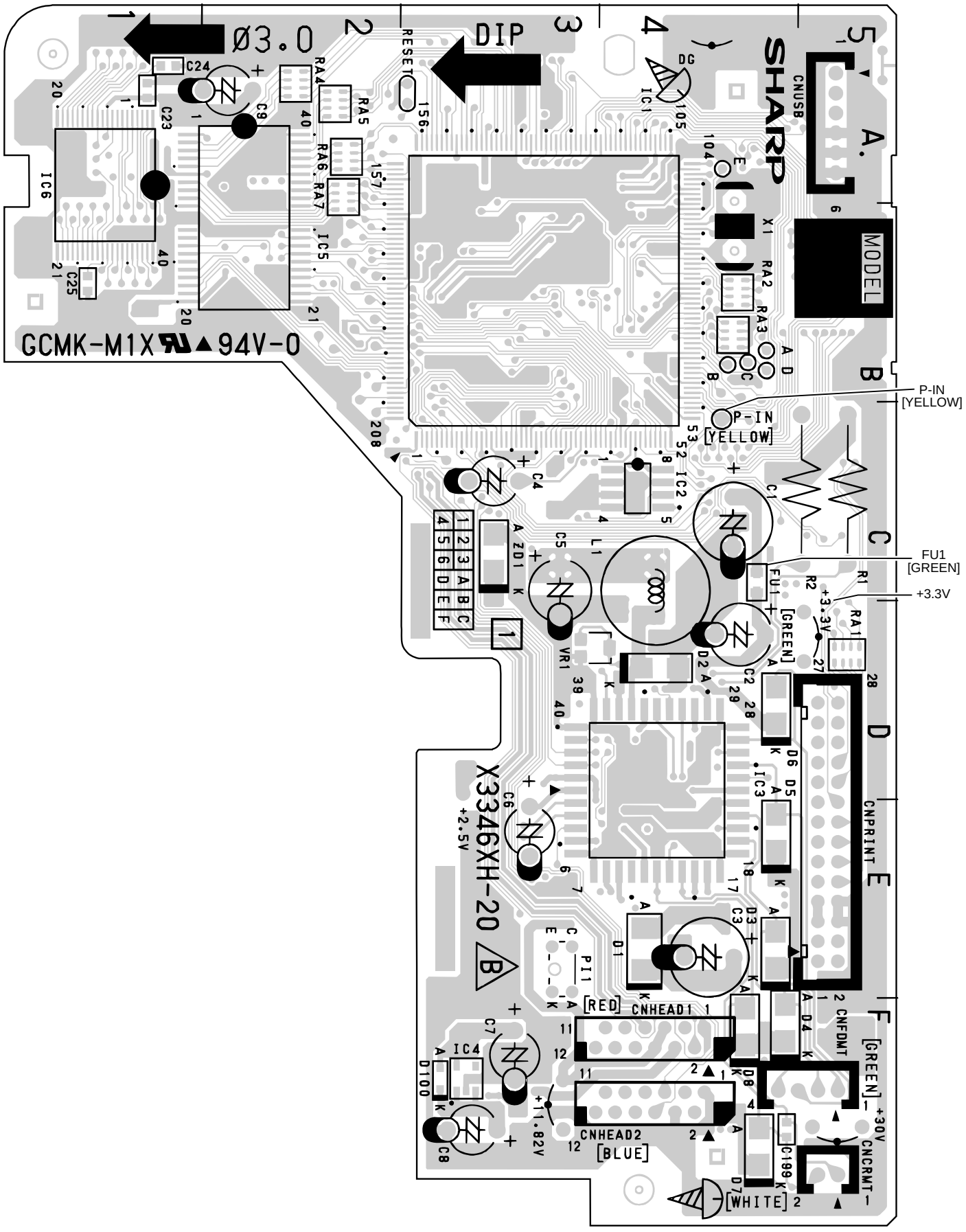
Printer PWB circuit

3/4

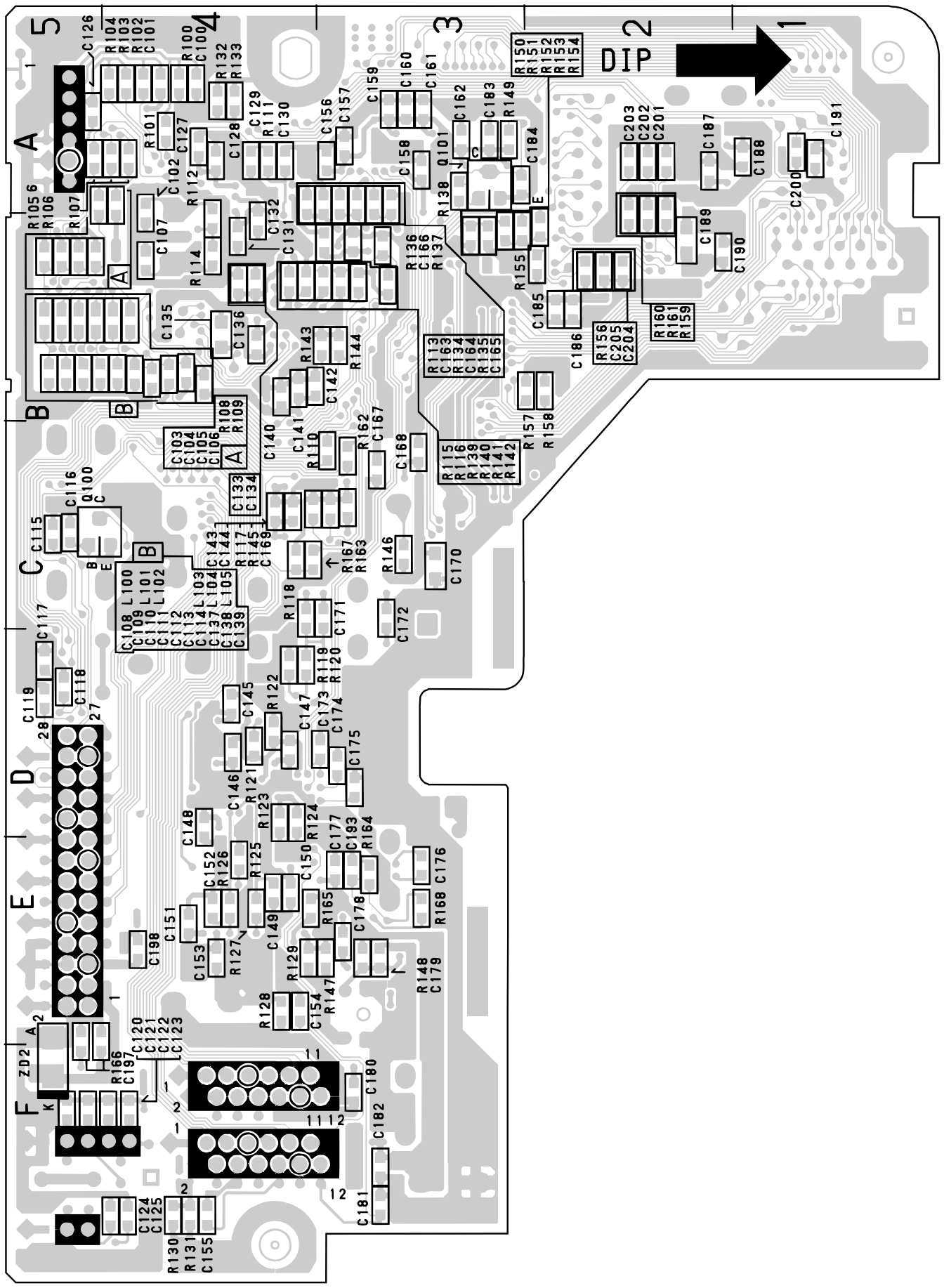


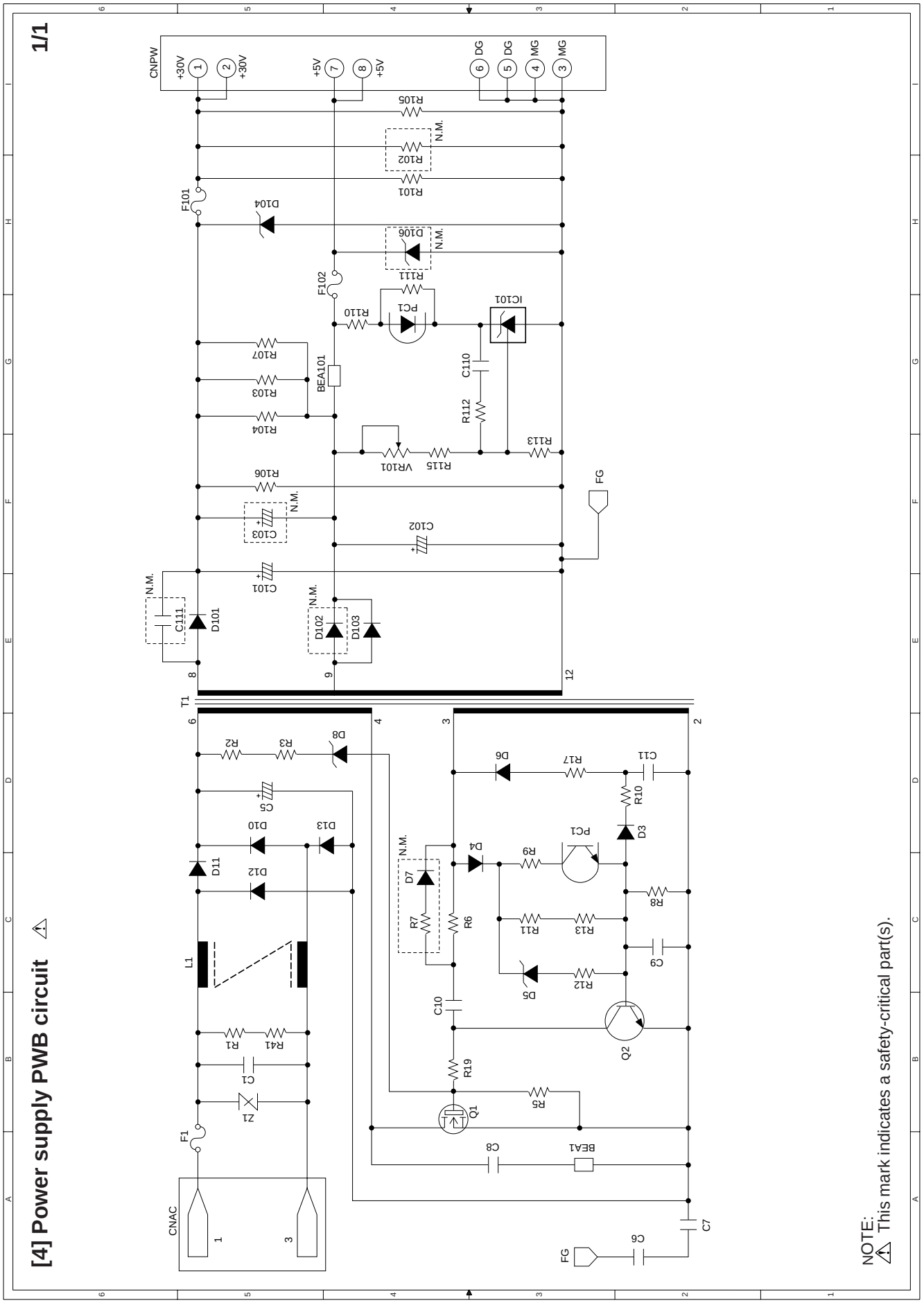

Printer PWB circuit
4/4
NOTE:
⚠ This mark indicates a safety-critical part(s).
CNPRINT
B28B-PHDSS-B
CNFDMT
B4B-PH-K-S
CNCRMT
B2B-PH-K-S(WHITE)
CNUSB
CNHEAD1
CNHEAD2
HLW12S-2C7
GP1S094HCZ
KTC3875GR
1N4002
RA1
SF_phid1
SF_phid2
SF_sdata
SF_clk2pr
SF_penable
SF_pdata0
SF_pdata1
SF_pdata2
SF_pdata3
SF_pload
ACLK
AGATE
PCLK
PH_D3
PH_D2
PH_D1
PH_D0
PLOAD
PENABLE
LatchHrCS
LCN
OK2PRT
PRTRES-
En_PhID1
En_PhID2
SNR_ChB
SNR_ChA
P_D[0..7]
nSTROBE
PRTRES-
A_nAck
A_Busy
A_PError
A_nFault
A_Select
nSELECTIN
nINIT
nAUTOFD
PIN
SN_Cover
USB_PULLUP
USB_D-
USB_D+
USB_VBUS
PIN (1-5E)(4-5I)
+30V
+3.3V
+11.82V
+30VHD
+VM
DG
MG
N.M.

Printer PWB parts layout (Top side)

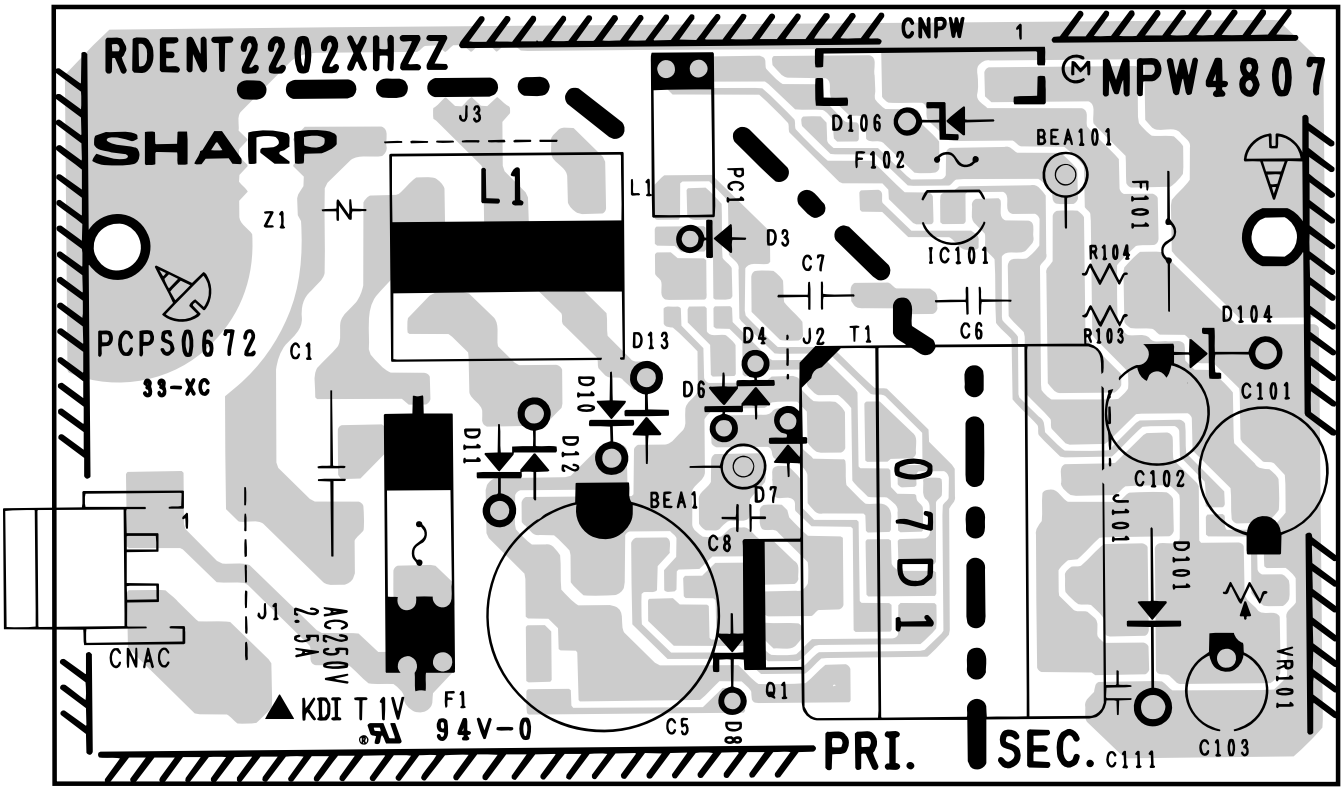


Printer PWB parts layout (Bottom side)

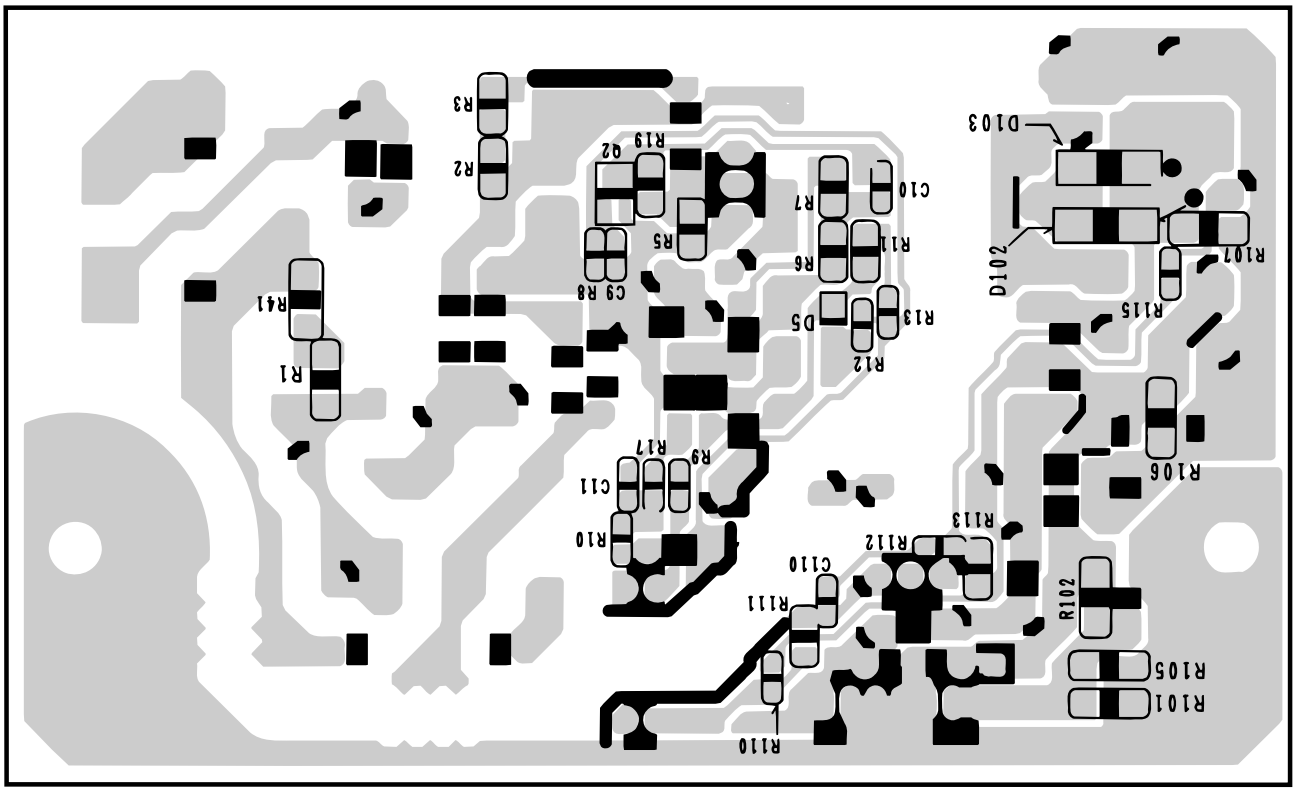


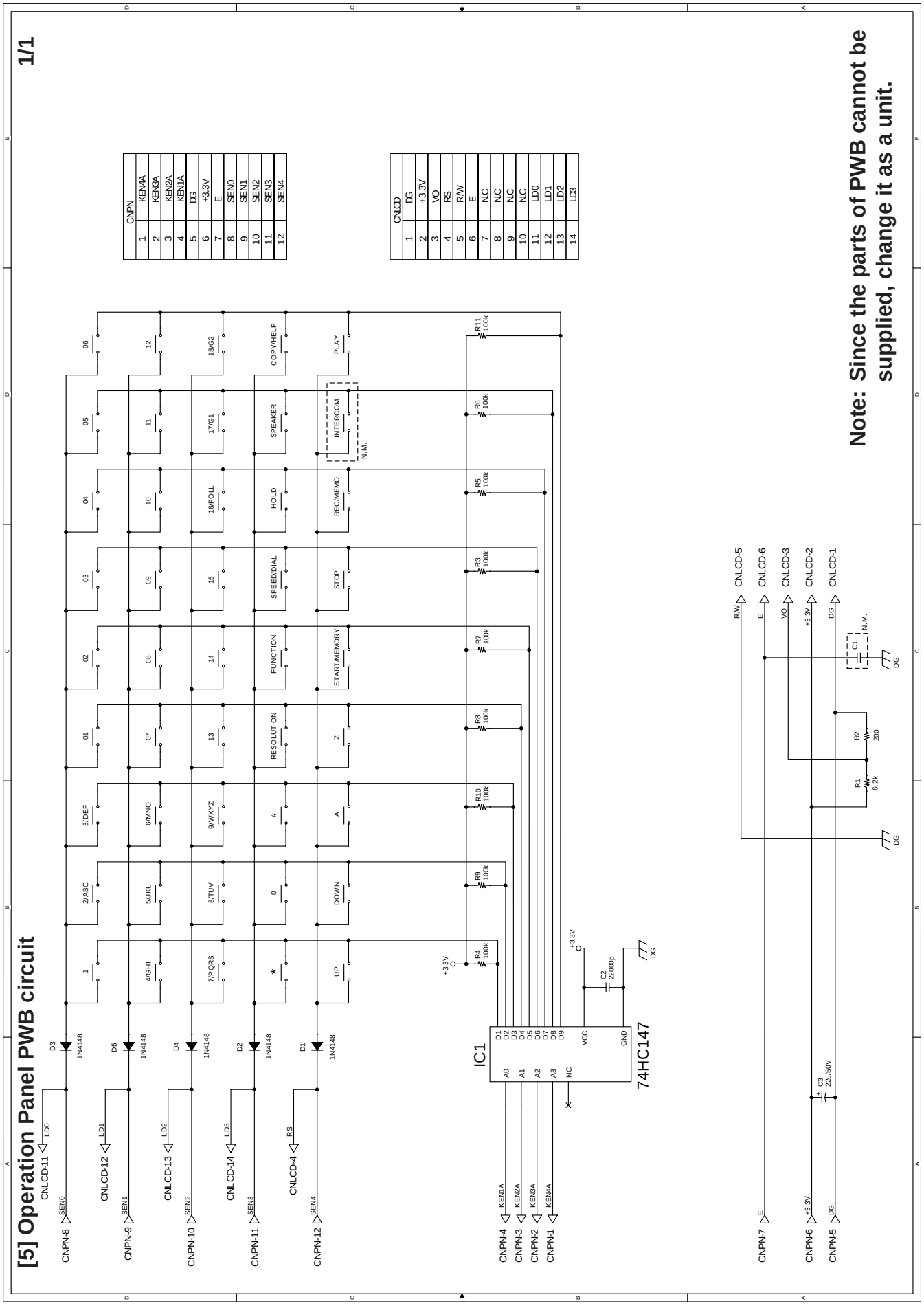

1/1
[4] Power supply PWB circuit ⚠
CNPW
+30V
+30V
+5V
+5V
DG
DG
MG
MG
R105
R102
N.M.
R101
F101
D104
D106
N.M.
R111
F102
R110
PC1
IC101
R107
R103
R104
BEA101
C110
R112
R113
R115
VR101
R106
N.M.
C103
C102
FG
C101
N.M.
C111
D101
N.M.
D102
D103
T1
D8
R2
R3
C5
D13
D10
D11
D12
L1
R41
R1
C1
Z1
F1
CNAC
D6
R17
C11
R10
D3
PC1
D4
R9
N.M.
D7
R7
R6
R8
R11
R13
C9
D5
R12
C10
Q2
R19
R5
Q1
C8
BEA1
C7
C6
FG
NOTE:
⚠ This mark indicates a safety-critical part(s).

Power supply PWB parts layout (Top side)

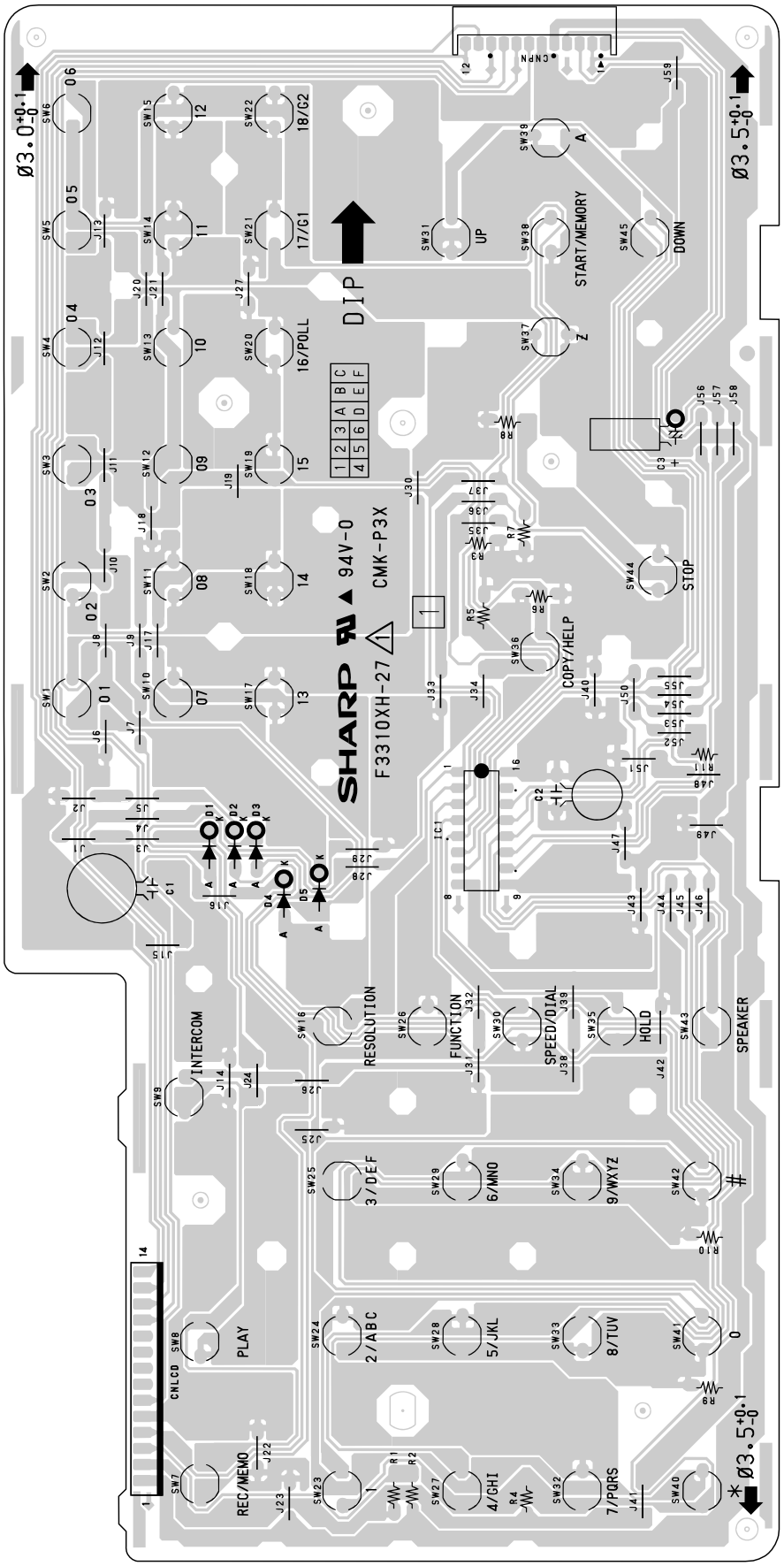


Power supply PWB parts layout (Bottom side)




[5] Operation Panel PWB circuit
1/1
CNPN
1 KEN4A
2 KEN3A
3 KEN2A
4 KEN1A
5 DG
6 +3.3V
7 E
8 SEN0
9 SEN1
10 SEN2
11 SEN3
12 SEN4
CNLCD
1 DG
2 +3.3V
3 VO
4 RS
5 R/W
6 E
7 NC
8 NC
9 NC
10 NC
11 LD0
12 LD1
13 LD2
14 LD3
Note: Since the parts of PWB cannot be supplied, change it as a unit.
IC1
74HC147
INTERCOM
N.M.
CNLCD-11
CNLCD-12
CNLCD-13
CNLCD-14
CNLCD-4
CNLCD-5
CNLCD-6
CNLCD-3
CNLCD-2
CNLCD-1
CNPN-8
CNPN-9
CNPN-10
CNPN-11
CNPN-12
CNPN-4
CNPN-3
CNPN-2
CNPN-1
CNPN-7
CNPN-6
CNPN-5

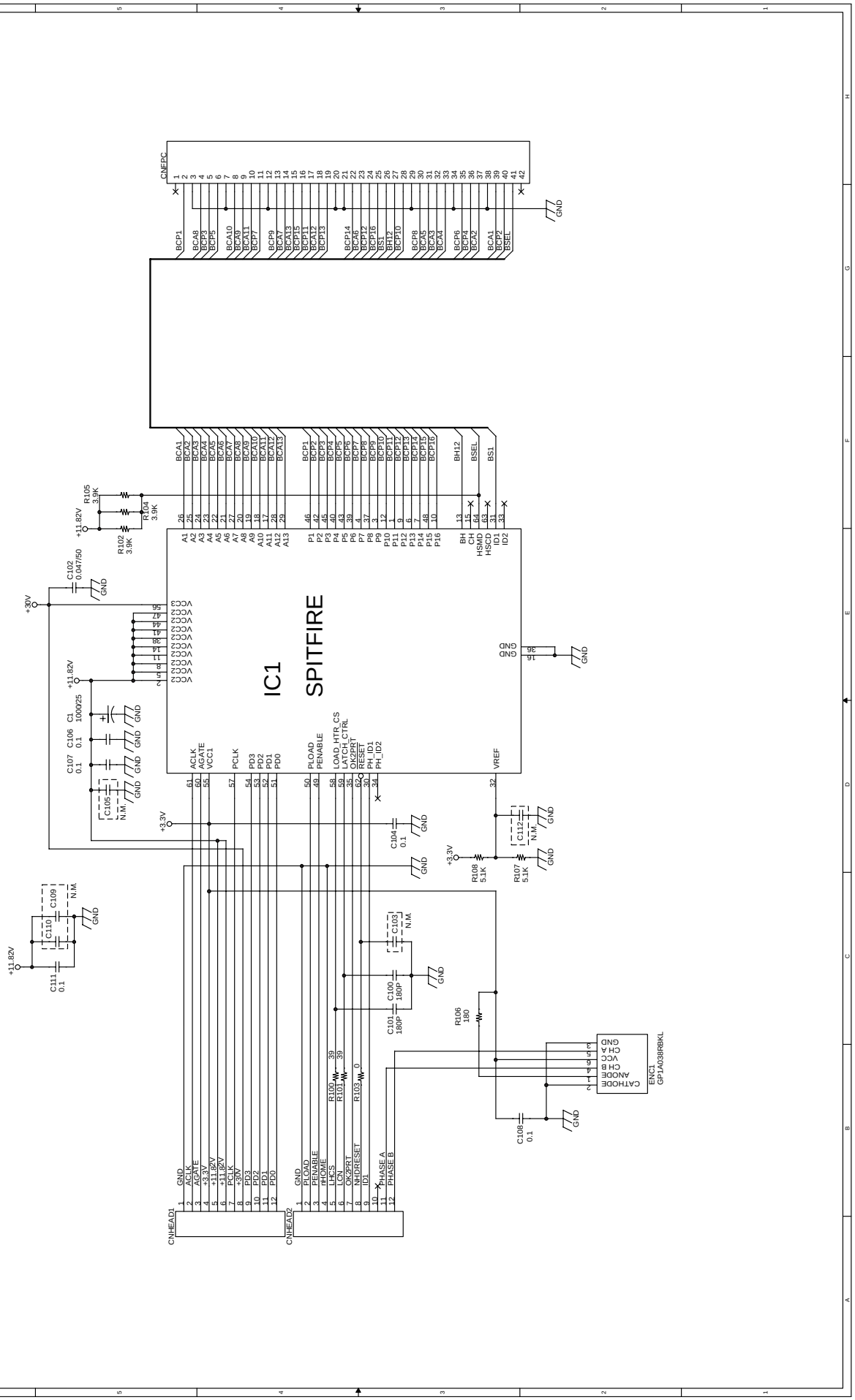
Operation panel PWB parts layout



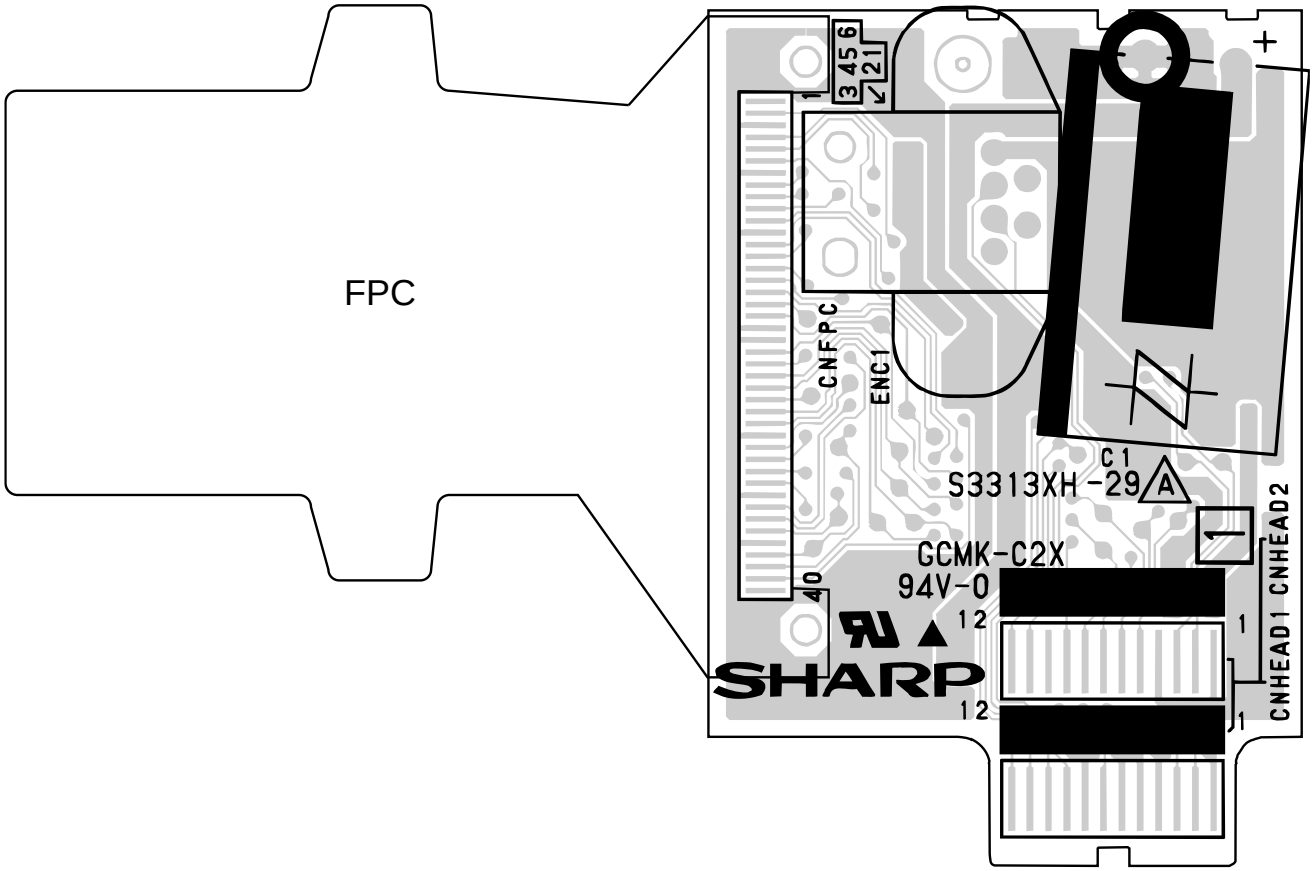
Note: Since the parts of PWB cannot be supplied, change it as a unit.

[6] Ink PWB circuit

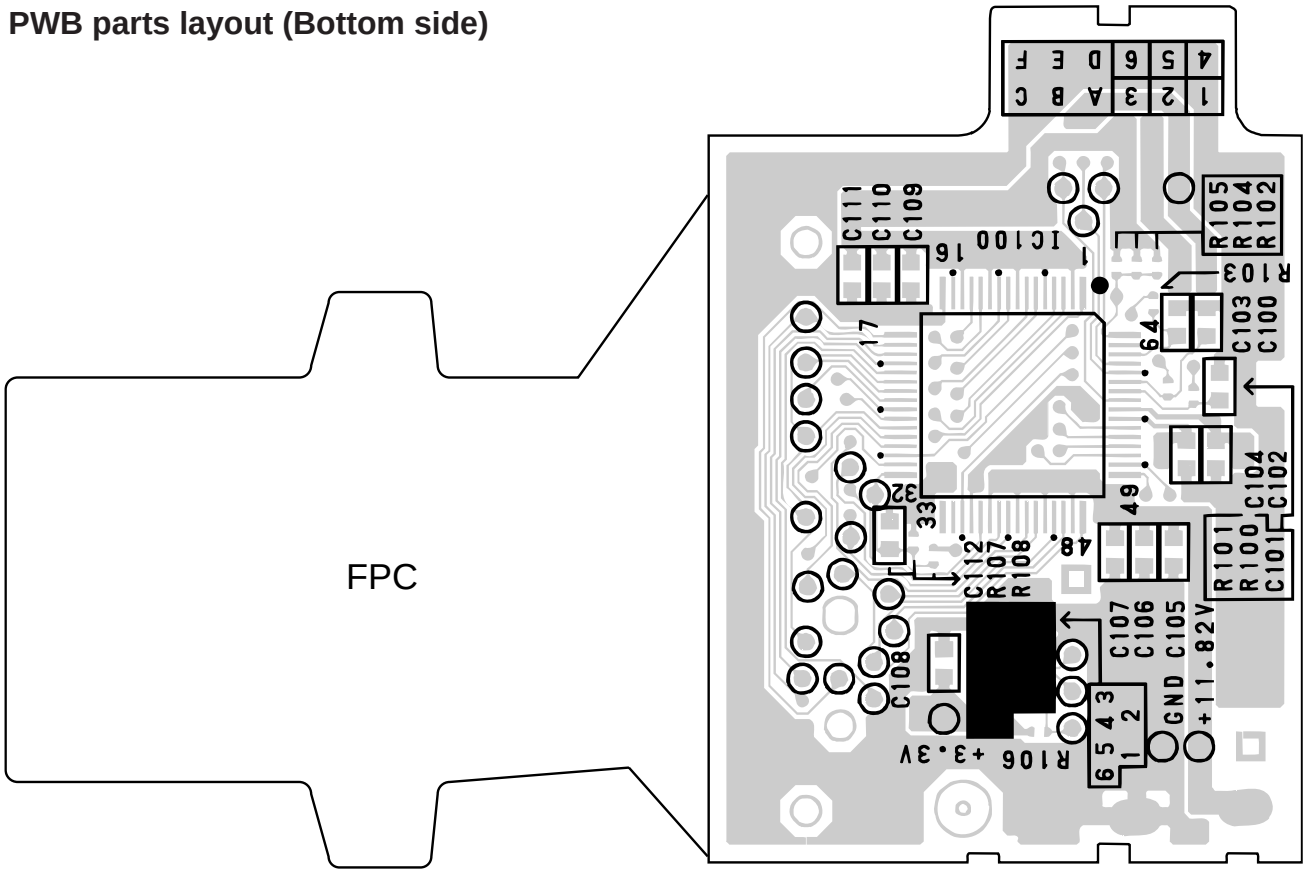
1/1



Ink PWB parts layout (Top side)

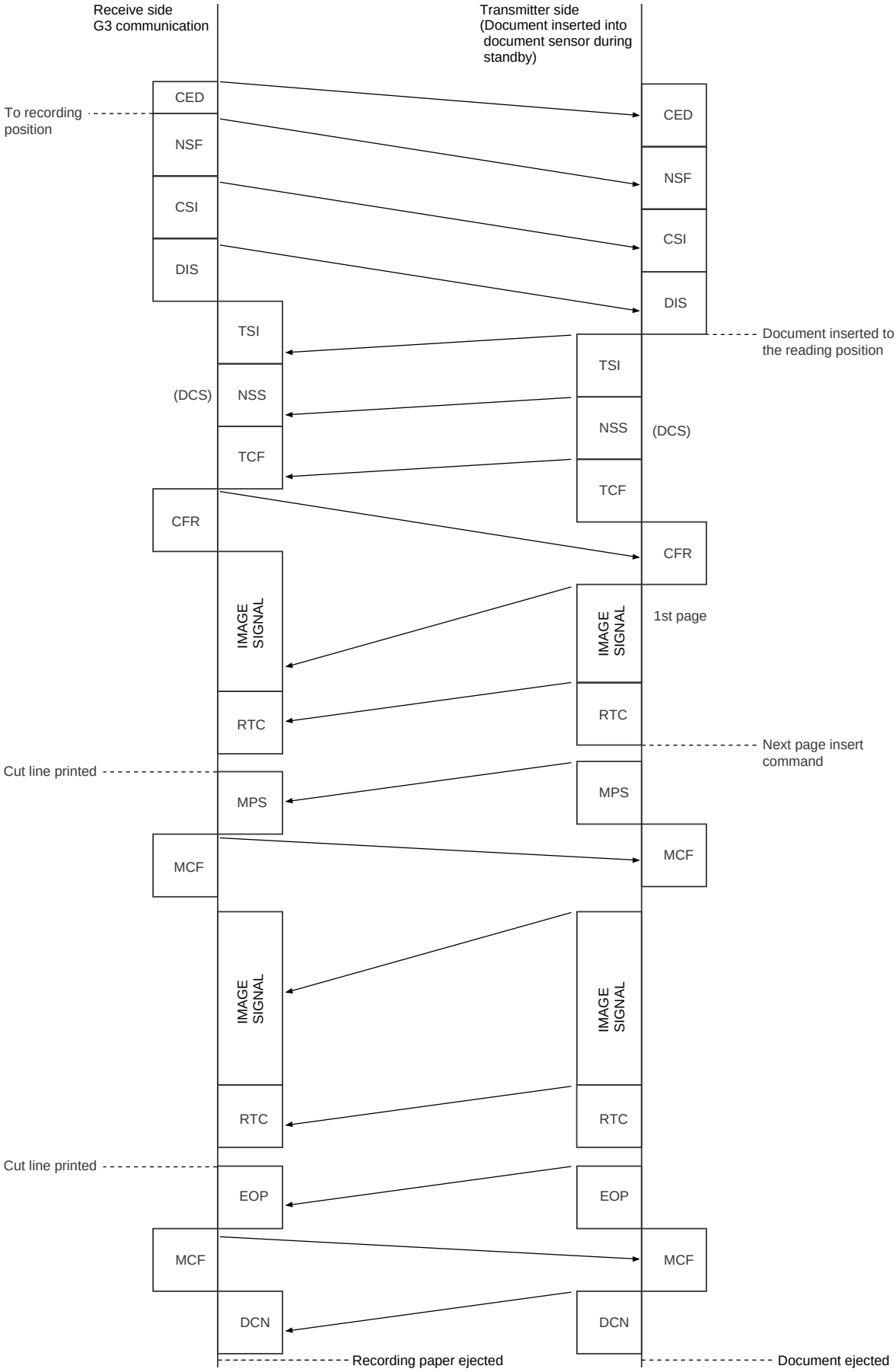


Ink PWB parts layout (Bottom side)

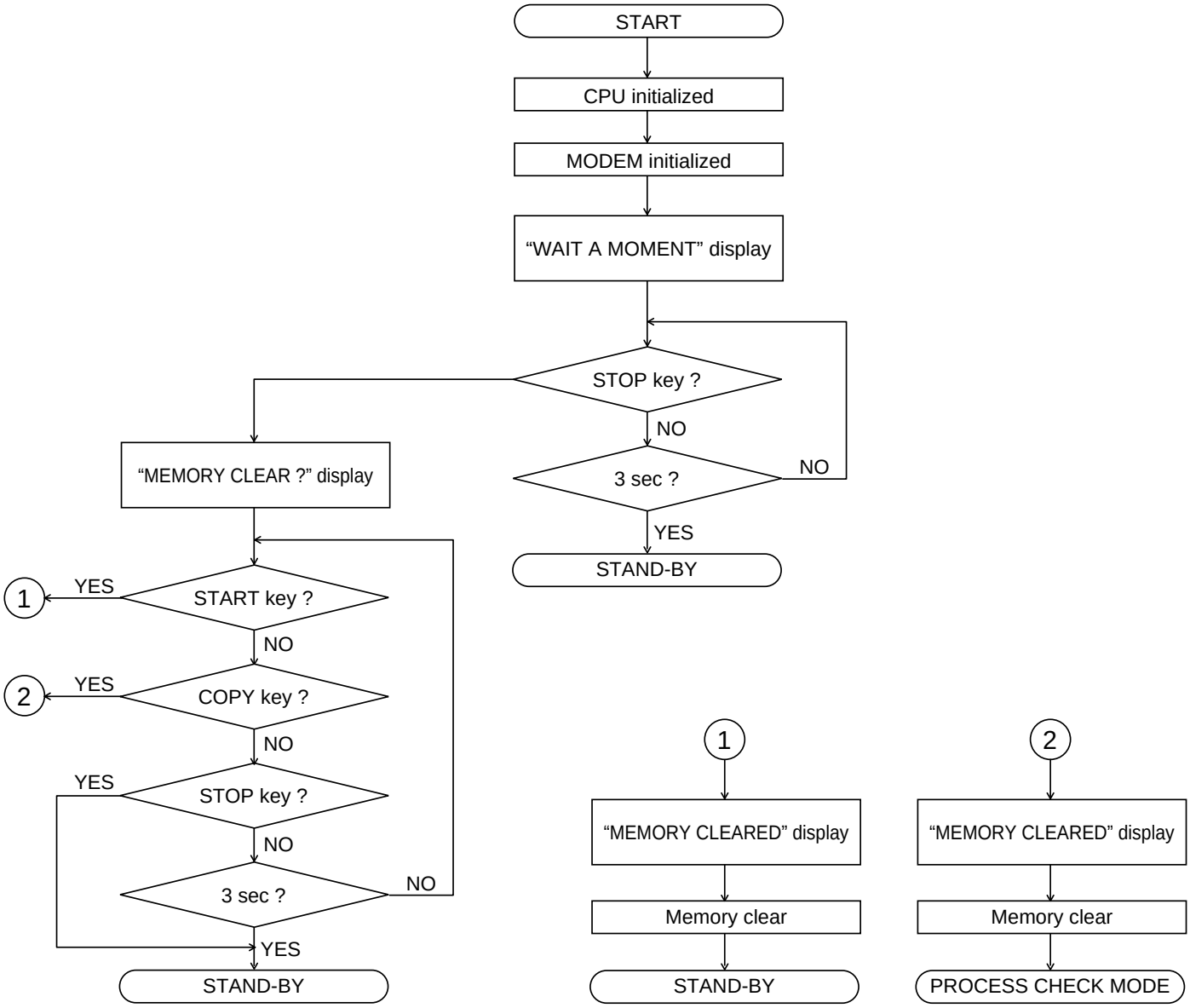


CHAPTER 7. OPERATION FLOWCHART

[1] Protocol



[2] Power on sequence



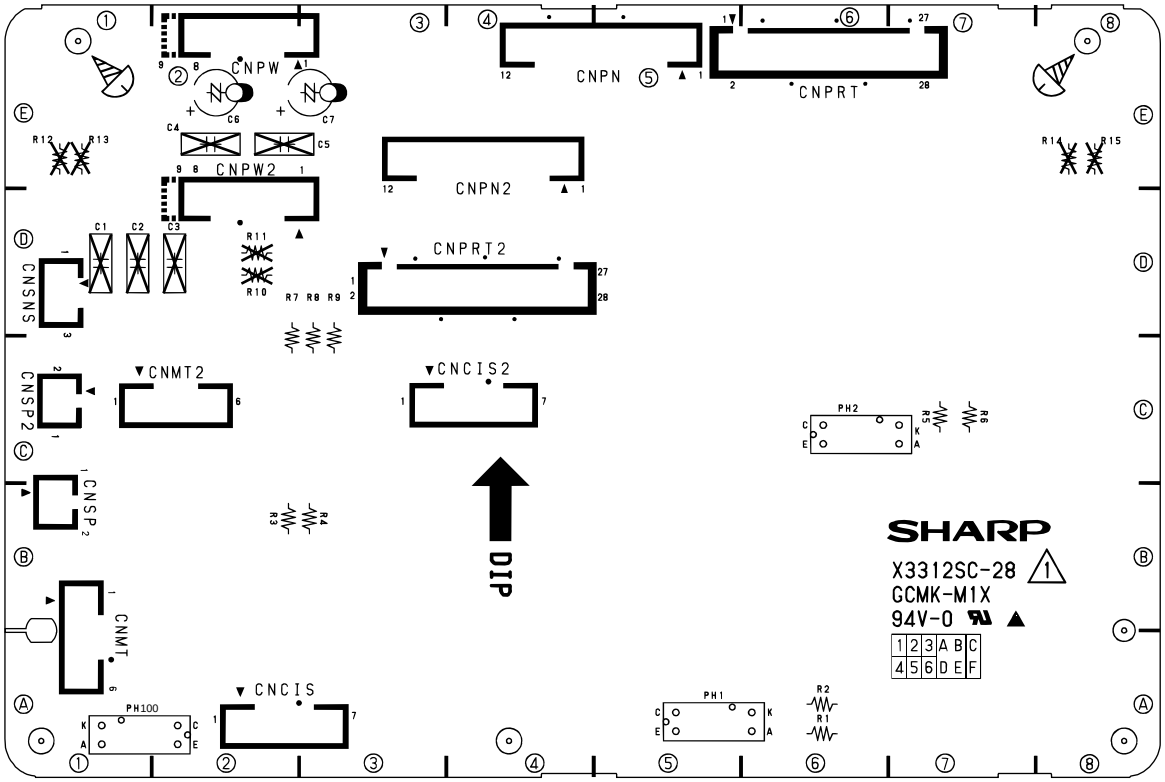
CHAPTER 8. OTHERS

[1] Service tools

1. List

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	CPWBX3312SCS1	Extension board unit (Control PWB)	1	CA
2	CPWBX3318SCS1	Extension board unit (Printer PWB)	1	CA
3	PSHEZ3579SCZZ	Shading wave memory standard paper	1	AD

Extension Control board unit



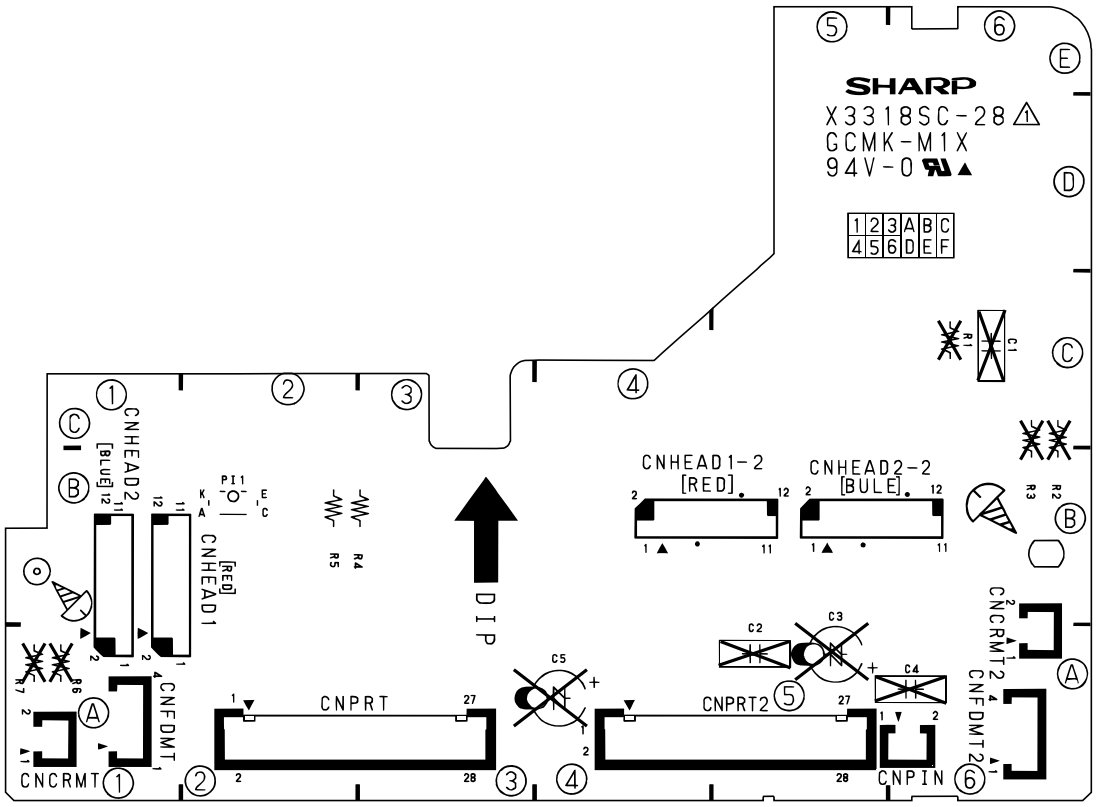
Extension Control PWB unit (CPWBX3312SCS1)

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	VCEAGA1HW476M	CAPACITOR (50WV 47µF) [C6][C7]	2	AB
2	QCNCM2482SC2H	CONNECTOR (28PIN) [CNPRT][CNPRT2]	2	AG
3	QCNCM705CAF04	CONNECTOR (YELLOW) (3PIN) [CNSNS]	1	AC
4	QCNCM7014SC1B	CONNECTOR (12PIN) [CNPN][CNPN2]	2	AD
5	QCNCM7014SC0G	CONNECTOR (7PIN) [CNCIS][CNCIS2]	2	AB
6	QCNCM7014SC0H	CONNECTOR (8PIN) [CNPW][CNPW2]	2	AB
7	QCNCM7014SC0F	CONNECTOR (6PIN) [CNMT][CNMT2]	2	AB
8	QCNCM2401SC0B	CONNECTOR (RED) (2PIN) [CNSP][CNSP2]	2	AA
9	VHPGP1S58V/-1	PHOTO INTERRUPTER PH1:ORGSNS PH2:FRSNS PH100:DRSNS [PH1][PH2][PH100]	3	AE
10	VRD-HT2EY431J	RESISTOR (1/4W 430Ω ±5%) [R1][R2][R3][R4][R5][R6]	6	AA
11	VRD-HT2EY000J	RESISTOR (1/4W 0Ω ±5%) [R7][R8][R9]	3	AA

Extension cables for extension Control PWB

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	QCNWG338BSCZZ	CIS EXTENSION CABLE	1	AP
2	QCNWG339BSCZZ	PANEL EXTENSION CABLE	1	AF
3	QCNWG344BSCZZ	SPEAKER EXTENSION CABLE	1	AG
4	QCNWG345BSCZZ	TX MOTOR EXTENSION CABLE	1	AN
5	QCNWG348BSCZZ	SENSOR EXTENSION CABLE	1	AV
6	QCNWG349BSCZZ	PS EXTENSION CABLE	1	AE

Extension Printer board unit



Extension Printer PWB unit (CPWBX3318SCS1)

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	QCNCM2482SC2H	CONNECTOR (28PIN) [CNPRT][CNPRT2]	2	AG
2	QCNCM2442SC0B	CONNECTOR(GREEN) (2PIN) [CNPIN]	1	AB
3	QCNCW2556SC1B	CONNECTOR (12PIN) [CNHEAD1][CNHEAD1-2][CNHEAD2][CNHEAD2-2]	4	AG
4	QCNCM7014SC0D	CONNECTOR (4PIN) [CNFDMT][CNFDMT2]	2	AB
5	QCNCM7014SC0B	CONNECTOR (2PIN) [CNCRMT][CNCRMT2]	2	AD
6	VHPGP1S094HCZ	PHOTO INTERRUPTER [PI1(PIN)]	1	AG
7	VRD-HT2EY121JT	RESISTOR (1/4W 120Ω ±5%) [R4][R5]	2	AA

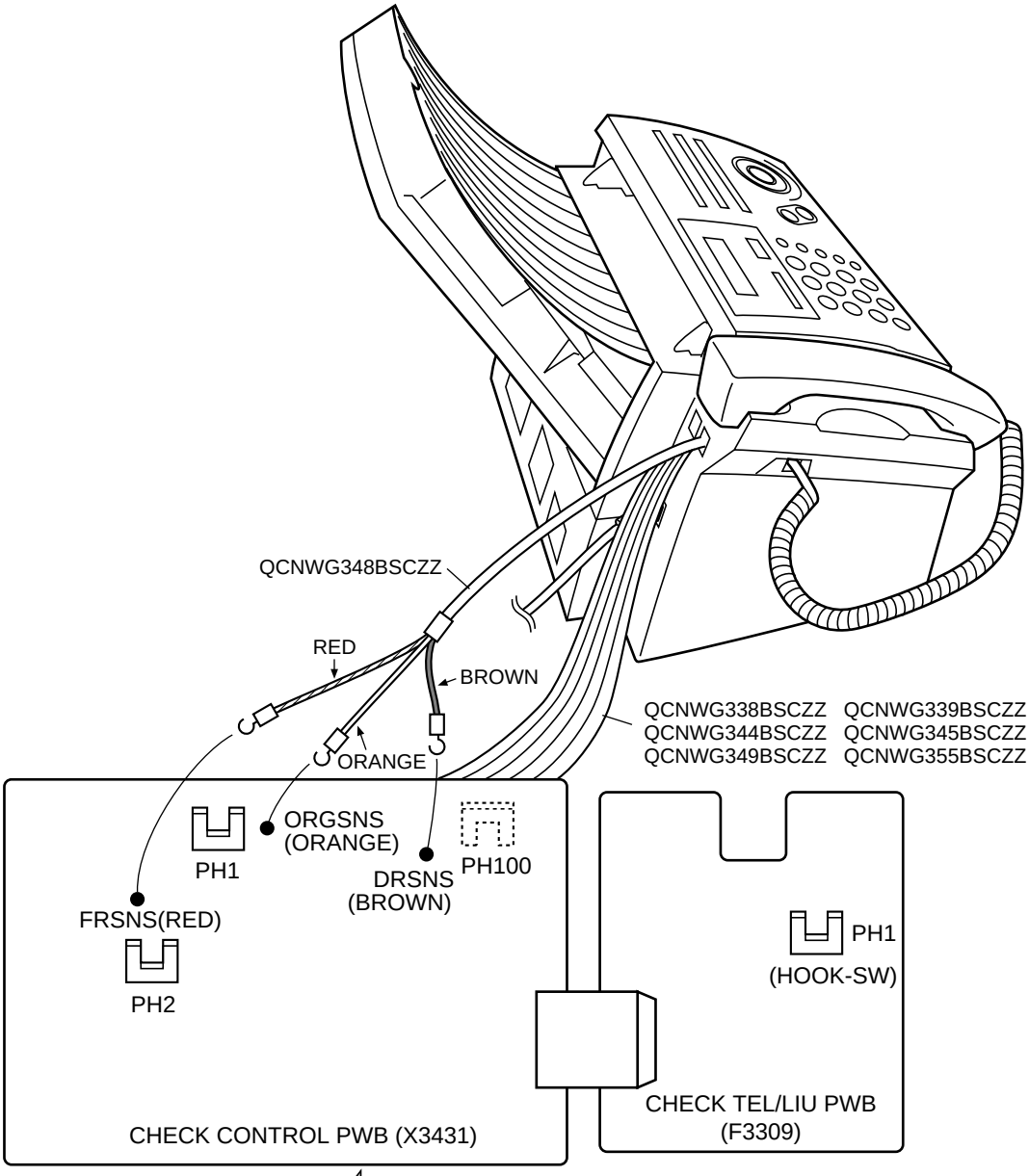
Extension cables for extension Printer PWB

NO.	PARTS CODE	DESCRIPTION	Q'TY	PRICE RANK
1	QCNWG340BSCZZ	FD MOTOR EXTENSION CABLE	1	AL
2	QCNWG341BSCZZ	CR MOTOR EXTENSION CABLE	1	AG
3	QCNWG342BSCZZ	INK1 EXTENSION CABLE (For CNHEAD1)	1	AY
4	QCNWG343BSCZZ	INK2 EXTENSION CABLE (For CNHEAD2)	1	AY
5	QCNWG364BSCZZ	PIN EXTENSION CABLE * This cable is used when extension Control PWB and extension Printer PWB are used at the same time.	1	AR
6	QCNWG355BSCZZ	PRINTER RELAY EXTENSION CABLE * This cable is used when either extension Control PWB or extension Printer PWB is used.	1	AZ

2. Description

2-1. Control PWB CHK

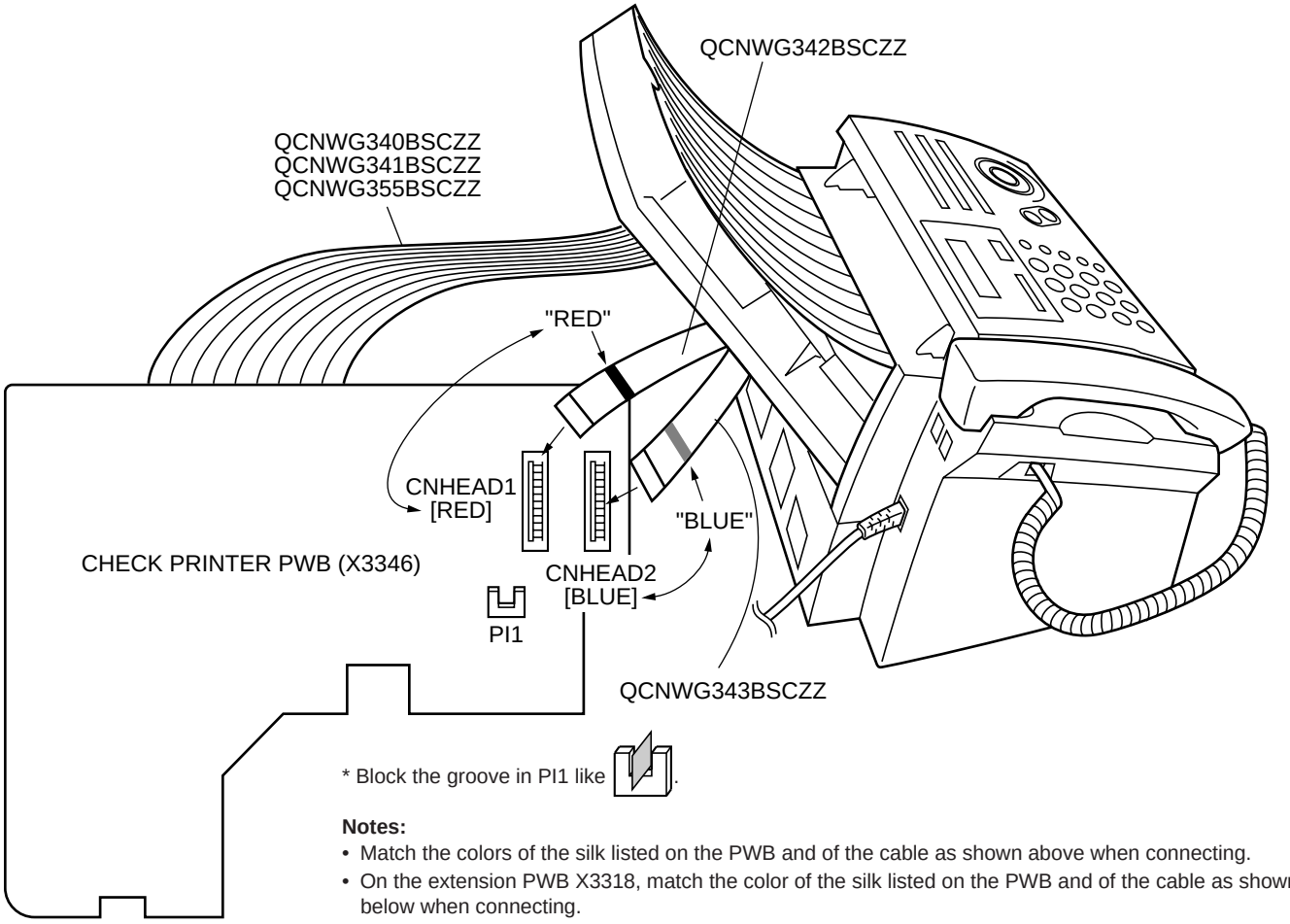
Install the extension PWB X3312 in the main unit. (Replace X3431.)



* Block the groove in each PH like . Hook-SW (PH1 of TEL/LIU F3309) should be turned on/off manually.

2-2. Printer PWB CHK

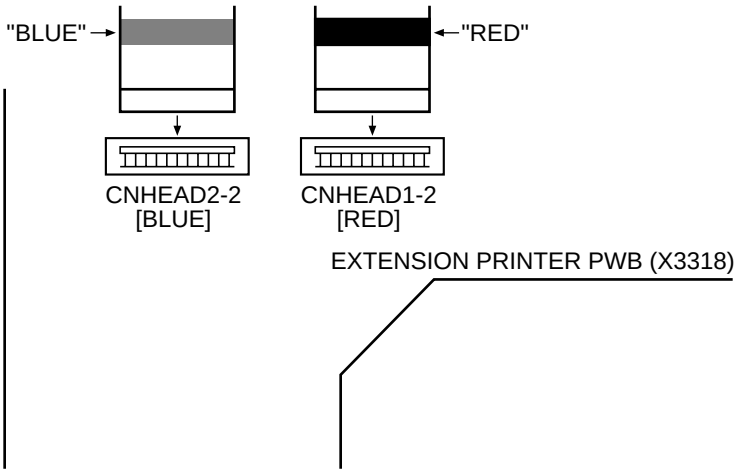
Install the extension PWB X3318 in the main unit. (Replace X3346.)



* Block the groove in PI1 like .

Notes:

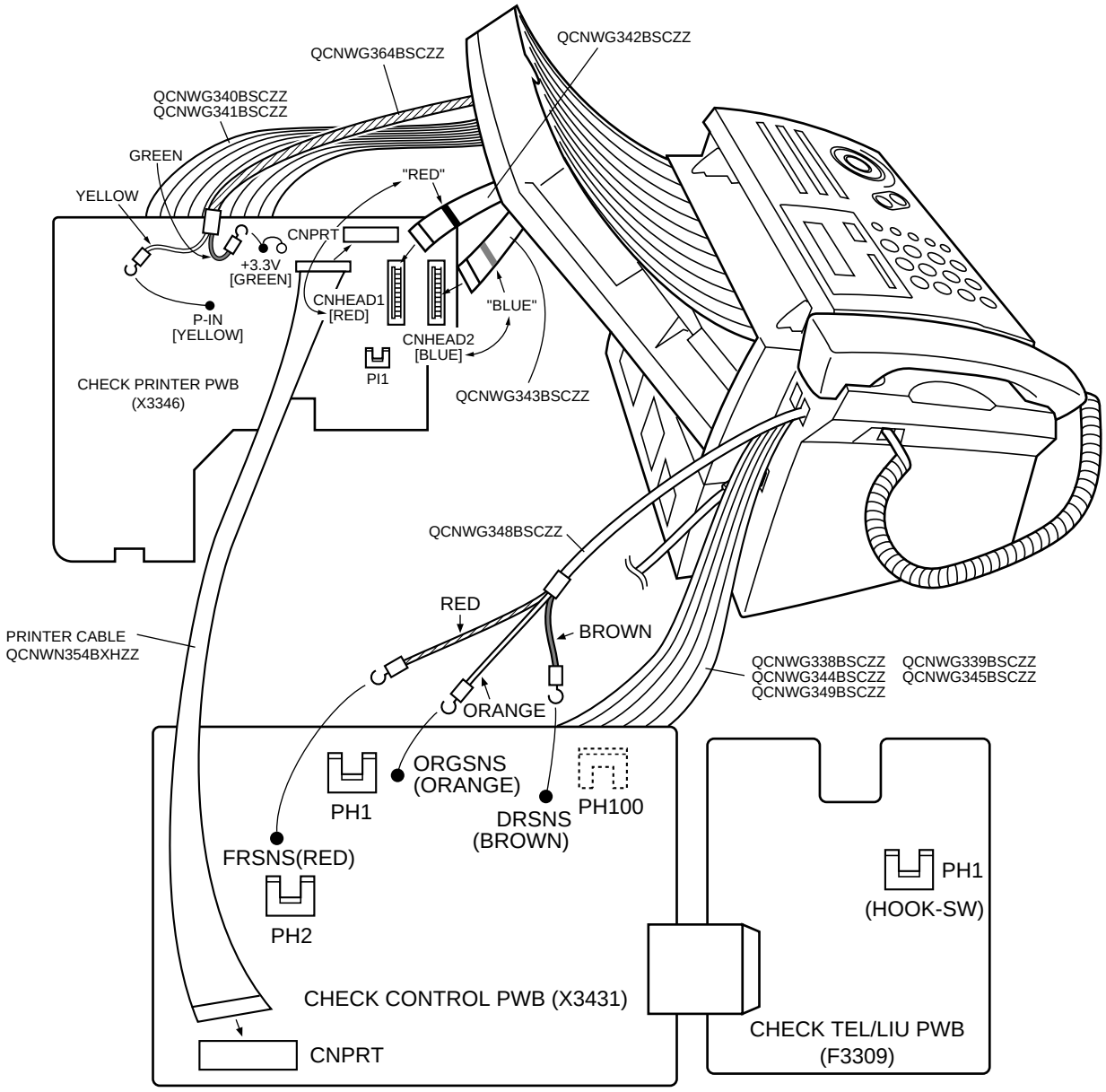
- Match the colors of the silk listed on the PWB and of the cable as shown above when connecting.
- On the extension PWB X3318, match the color of the silk listed on the PWB and of the cable as shown below when connecting.



2-3. Simultaneous CHK on Control PWB and Printer PWB

- Install the extension PWB X3312 in the main unit. (Replace X3431.)
- Install the extension PWB X3318 in the main unit. (Replace X3346.)

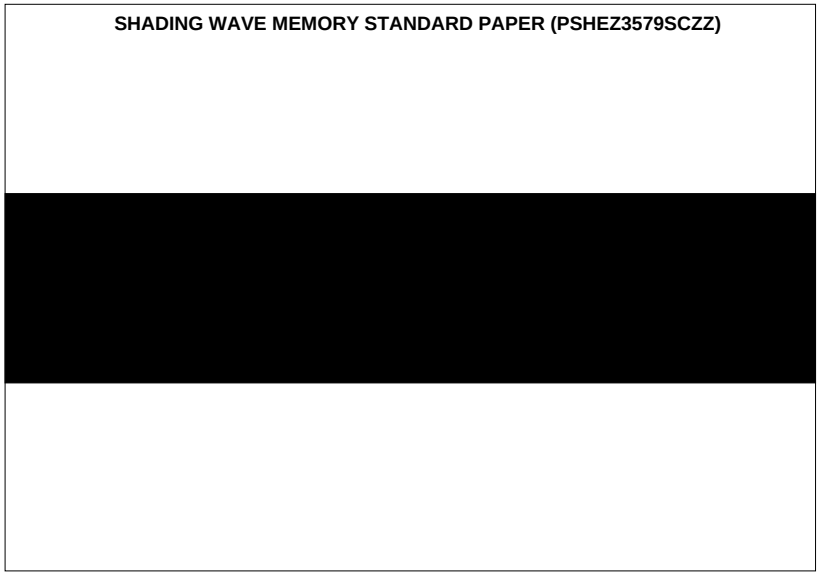
Notes:
Be sure to follow the notes in "2-2. Printer PWB CHK".



* Block the groove in each PH,PI like . Hook-SW (PH1 of TEL/LIU F3309) should be turned on/off manually.

2-4. Shading paper

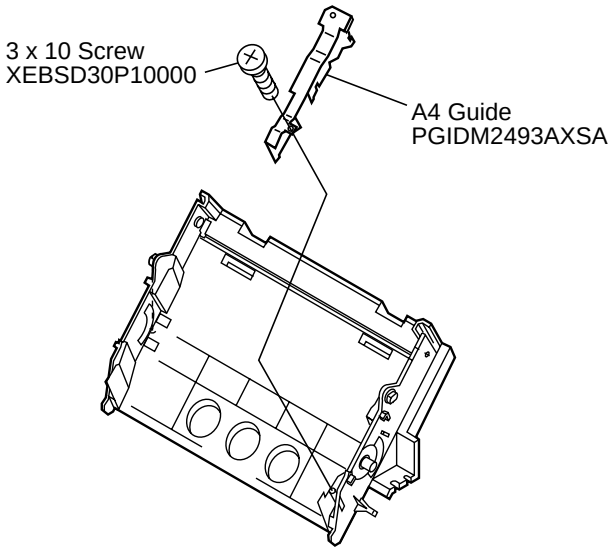
The white and black basis is applied to remember the shading waveform. Be sure to perform this operation when replacing the battery or replacing the control PWB. Execute in the shading mode of DIAG mode.



[2] Changing the record paper size

How to change the A4 size and letter size of the record papers

1) It becomes the record paper of the A4 size by installing A4 guide (PGiDM2493AXSA) which shows in the drawing. Remove A4 guide when you use the record paper of the letter size.



2) Set soft switch SW-L2 No.1 and the initialization of SW-L2 No.2 as follows.

SW NO.	DATA NO.	ITEM	Switch setting and function				Initial setting	Remarks
				1	0			
SW I L2		Paper set size		LETTER	LEGAL	A4		OPTION
	1		No. 1	0	0	1	0	
	2		No. 2	0	1	0	0	

[3] Rewriting version up the FLASH ROM

Refer to the Service Manual of UX-B700U.

SHARP **PARTS GUIDE**

MODEL UX-A1000

MODEL	SELECTION CODE	DESTINATION
UX-A1000	U	U.S.A.

CONTENTS

1 Cabinet, etc.

2 Operation panel unit/Document guide upper

3 Document guide lower

4 Printer unit

5 Packing material & Accessories

6 Control PWB unit

7 TEL/LIU PWB unit

8 Printer PWB unit

9 Power supply PWB unit

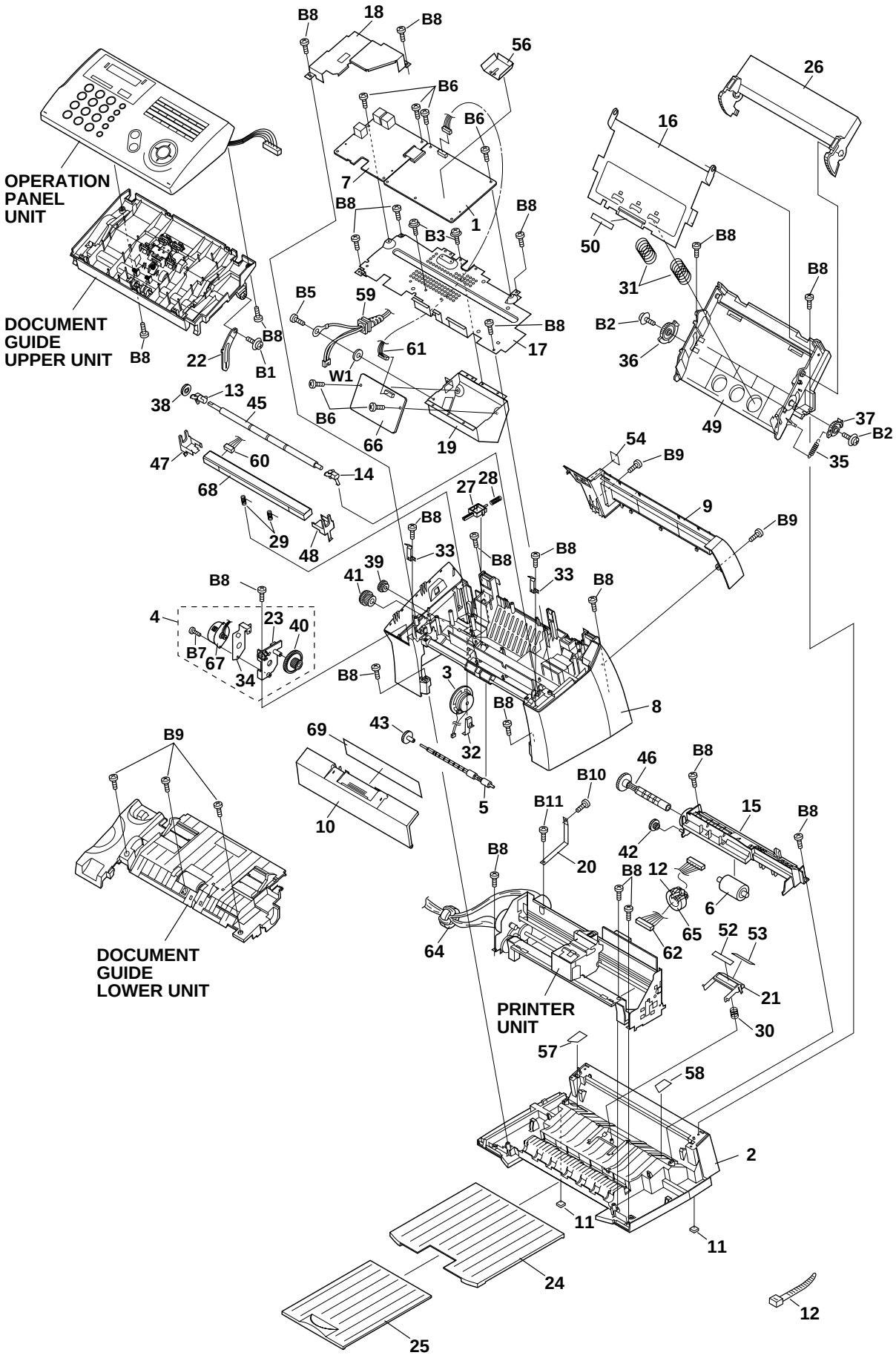
10 Operation panel PWB unit

11 Ink PWB unit

■ Index

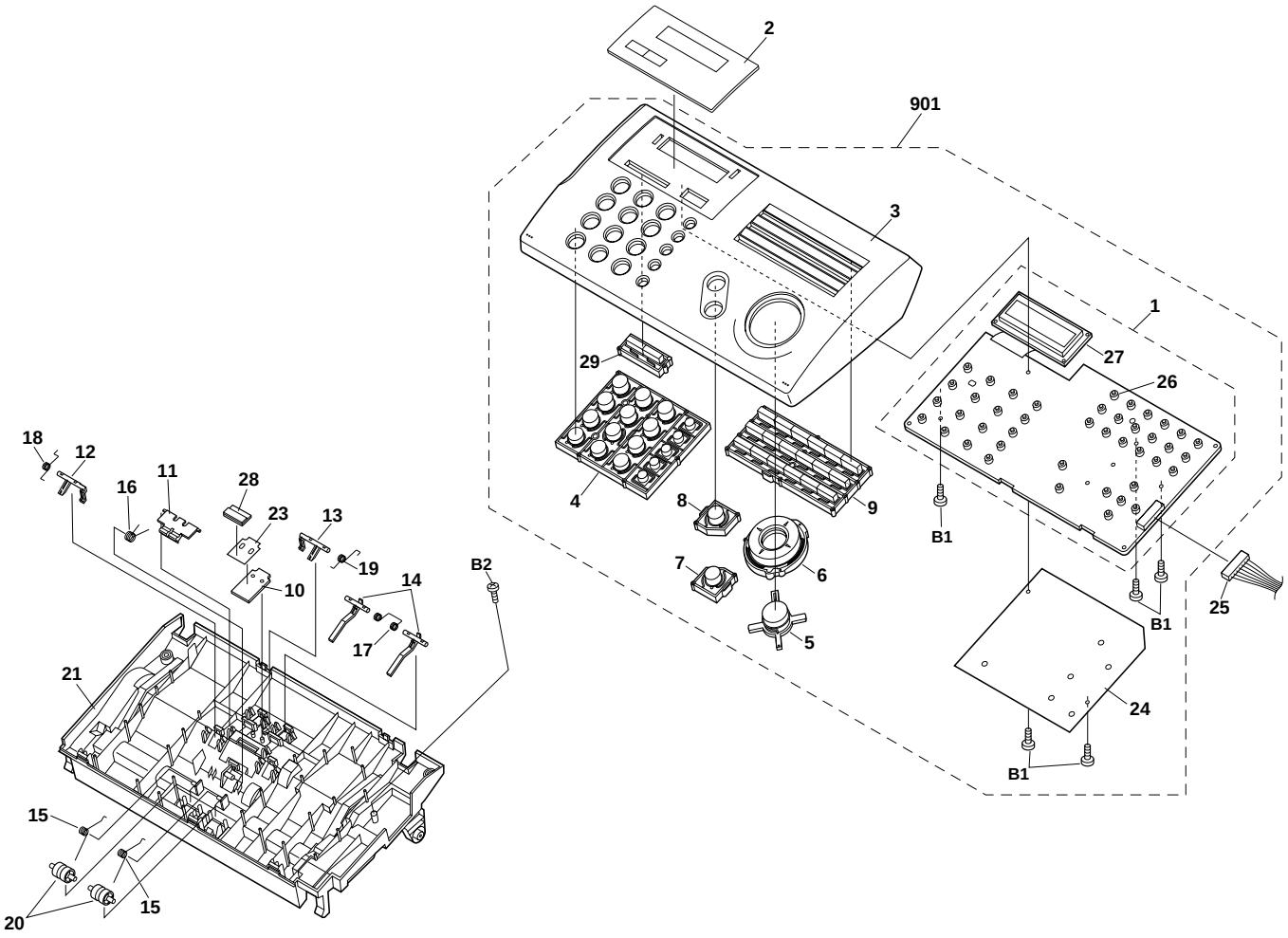
Because parts marked with "⚠" are indispensable for the machine safety maintenance and operation, it must be replaced with the parts specific to the product specification.

[1] Cabinet,etc.



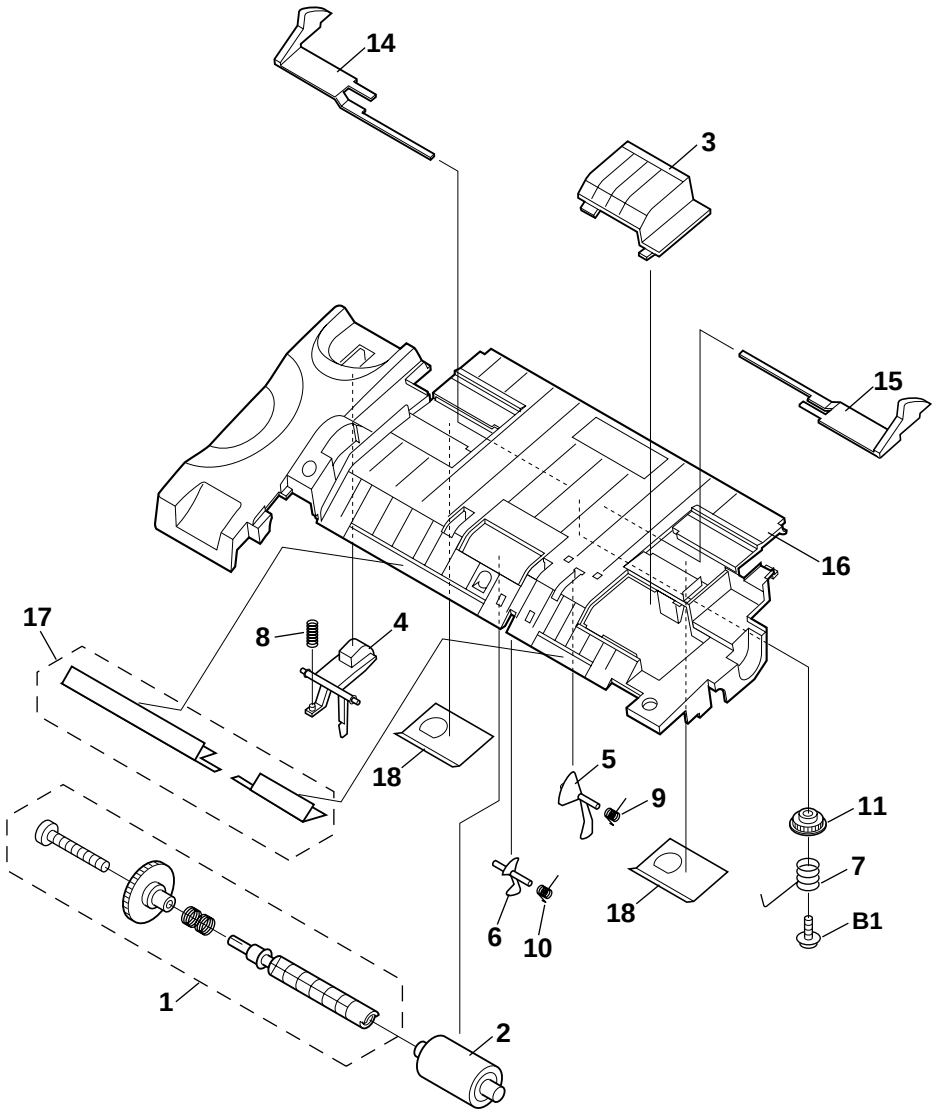
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[1] Cabinet,etc.					
1	DCEKC887SXHZZ	CA	N	E	Control PWB unit(Within ROM)
2	GCABB2419XHSD	BE	N	D	Bottom cabinet
3	CCNWN337BXH01	AL		C	Speaker ass'y
4	CPLTM3258XH01	BA		E	Drive unit
5	CROLP2499XH01	AM		E	Exit roller ass'y
6	CROLR2362XH03	AQ		E	Pick up roller ass'y
7	DCEKL434CXH01	BF		E	TEL/LIU PWB unit
8	GCABA2418XHSD	BF	N	D	Upper cabinet
9	GCOVA2458XHSC	AS	N	C	Back cover
10	GCOVA2467XHSD	AQ	N	C	Front cover
11	GLEGG2078XHZZ	AD		C	Rubber leg
12	LBNDJ2006XHZZ	AA		C	Band(100mm)
13	LBSHP2140XHZA	AC		C	Back bearing,left
14	LBSHP2143XHZZ	AC		C	Back bearing,right
15	LFRM-2240XHZA	AP		C	Pick up hold frame
16	LPLTM2924XHFW	AQ		C	Rotation plate
17	LPLTM3253XHZZ	AS		C	PWB installation plate
18	LPLTM3255XHZZ	AP		C	LIU upper plate
19	LPLTM3256XHZZ	AR		C	Power supply plate
20	LPLTM3259XHZZ	AF		C	Earth plate
21	LPLTP2884AXZA	AP		C	Separate plate
22	LPLTP3254XHZZ	AE		C	Panel stopper
23	LPLTP3258XHZZ	AG		C	Drive frame
24	LPLTP3260XHSC	AP	N	C	Exit tray
25	LPLTP3261XHSC	AM	N	C	Extension exit tray
26	LPLTP3263XHSH	AM	N	C	RP release plate
27	MLEVP2379XHZZ	AE		C	Front CV switch lever
28	MSPRC3390XHZZ	AD		C	Switch lever spring
29	MSPRC3391XHZZ	AE		C	CIS spring
30	MSPRC3406XHZZ	AD		C	Separate plate spring
31	MSPRC3407XHZZ	AE		C	Coil spring
32	MSPRP3055XHFJ	AD		C	Speaker hold spring
33	MSPRP3119XHZZ	AC		C	Panel lock spring
34	MSPRP3392XHZZ	AK		C	Earth spring
35	MSPRT2932XHFJ	AC		C	RP release spring
36	NGERH2365AXZZ	AD		C	RP release gear,left
37	NGERH2366AXZZ	AD		C	RP release gear,right
38	NGERH2569XHZZ	AC		C	Back gear
39	NGERH2570XHZZ	AD		C	Reduction gear,21/38Z
40	NGERH2572XHZZ	AD		C	Reduction gear,25/63Z
41	NGERH2580XHZZ	AC		C	Reduction gear,15/22Z
42	NGERH2609XHZZ	AE		C	Reduction gear 2
43	NGERH2612XHZZ	AE		C	Document exit gear
45	NROLR2482XHZZ	AR		C	Back roller
46	NSFTZ2367XHZZ	AG		C	Pick up shaft
47	PGIDM2617XHZZ	AD		C	CIS holder,left
48	PGIDM2618XHZZ	AD		C	CIS holder,right
49	PHOP-2095XHVC	AU	N	C	Paper hopper
50	PSEL-2015XHZZ	AB		C	Paper pad
52	PSHEZ3293XHZZ	AH		C	Separate plate pad
53	PSHEZ3344XHZZ	AD		C	Separate sheet
54	PSHEZ3410XHZZ	AB		C	Jack sheet
56	PSHEZ3759XHZZ	AP		C	Document under sheet
57	PSHEZ3760XHZZ	AE		C	Guide sheet,left
58	PSHEZ3761XHZZ	AE		C	Guide sheet,right
⚠ 59	QACCD2072XHZZ	AP		B	AC cord ass'y
60	QCNWN333BXHZZ	AP		C	CIS cable
61	QCNWN347BXHZZ	AM		C	Power supply cable
62	QCNWN354BXHZZ	AY		C	Printer cable
⚠ 64	RCORF2124XHZZ	AE		B	Core
⚠ 65	RCORF2125XHZZ	AE		B	Core(TRA31)
⚠ 66	RDENT2202XHZZ	BK		E	Power supply PWB unit
67	RMOTS2182XHZZ	AY		B	Transmission motor
68	RUNTZ2145XHZZ	BN	N	B	CIS unit
69	TLABH491EXHZZ	AE		C	Ink change label
B1	LX-BZ2205XHZZ	AC		C	Screw
B2	LX-BZ2222XHZZ	AC		C	Screw(3x6)
B3	LX-BZ2241XHZZ	AC		C	Screw(3x8)
B5	LX-BZ2282XHZZ	AB		C	Screw(4x6)
B6	XBBSF30P06000	AA		C	Screw(3x6)
B7	XEBSD30P06000	AA		C	Screw(3x6)
B8	XEBSD30P10000	AA		C	Screw(3x10)
B9	XEBSE30P12000	AA		C	Screw(3x12)
B10	XHBSD30P06000	AA		C	Screw(3x6)
B11	XHPSD30P08K00	AA		C	Screw(3x8)
W1	XWHSN40-08100	AA		C	Washer

[2] Operation panel unit/Document guide upper



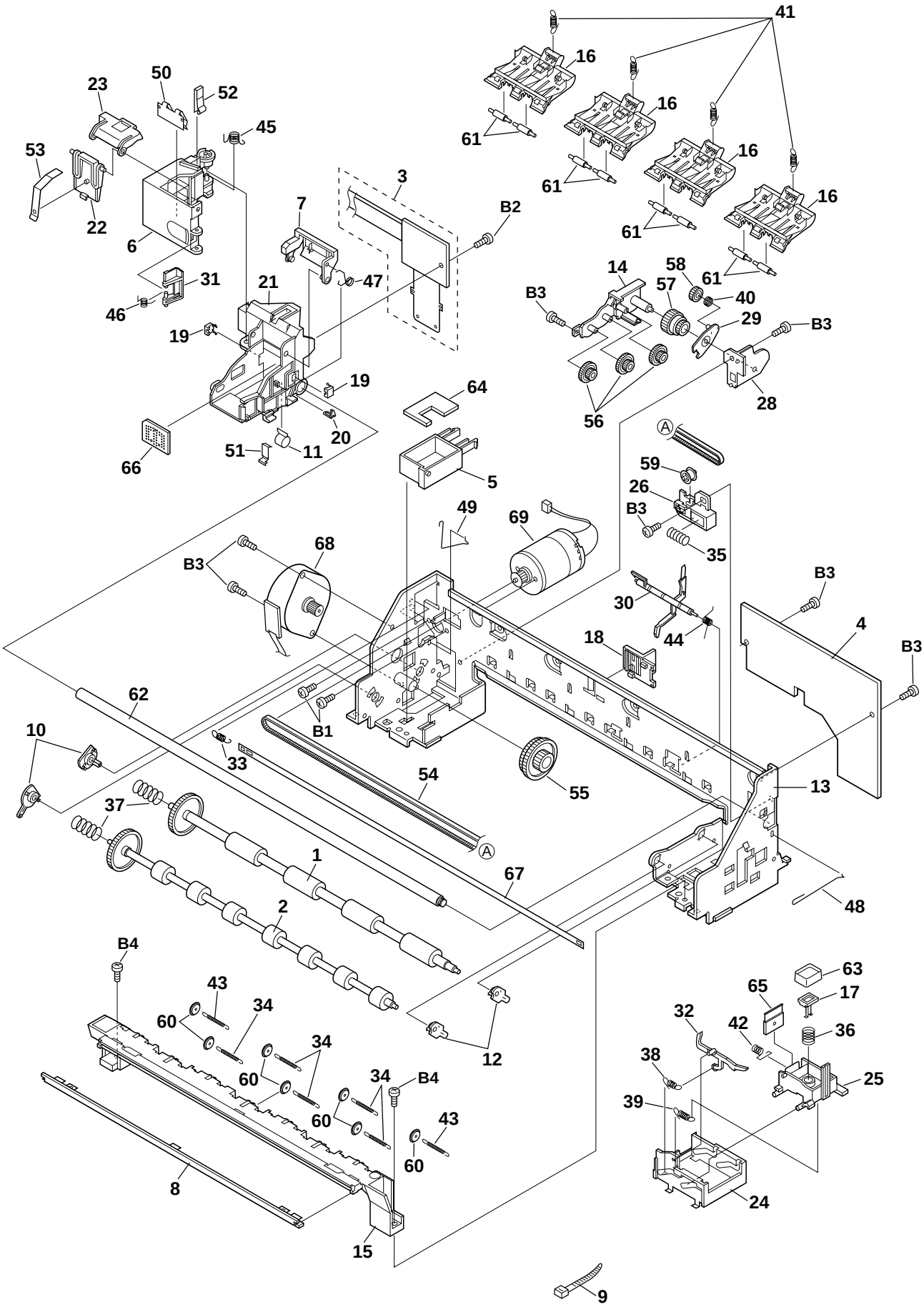
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[2] Operation panel unit/Document guide upper					
1	DCEKP439CXH03	BG	N	E	Operation panel PWB unit
2	HPNLH2426XHZK	AL	N	D	Decoration panel
3	GCASP2168XHSK	AY	N	D	Panel case
4	JBTN-2381XHSB	AM	N	C	12 key
5	JBTN-2382XHSD	AK	N	C	Start/Memory key
6	JBTN-2383XHSC	AG	N	C	Function key
7	JBTN-2384XHSA	AF		C	Stop key
8	JBTN-2385XHSC	AF	N	C	Copy/Help key
9	JBTN-2386XHSC	AG	N	C	Rapid Dial key
10	LPLTG3268XHZZ	AE		C	Separate rubber
11	LPLTP3175XHZZ	AD		C	Separate plate
12	LPLTP3257XHZL	AE		C	Sub feed plate,left
13	LPLTP3257XHZR	AE		C	Sub feed plate,right
14	MARMP2034XHZZ	AE		C	Paper feed plate
15	MSPRD3401XHZZ	AE		C	Pinch pressure spring
16	MSPRD3398XHZZ	AE		C	Separate spring
17	MSPRD3399XHZZ	AE		C	Paper feed spring
18	MSPRD3400XHZZ	AD		C	Sub feed spring,left
19	MSPRD3405XHZZ	AD		C	Sub feed spring,right
20	NROLP2332XHZZ	AD		C	Pinch roller
21	PGIDM2650XHSF	AU	N	C	Document guide upper
23	PSHEP3773XHZZ	AK		D	Separate sheet
24	PSHEZ3757XHZZ	AG		C	Panel sheet
25	QCNWN334BXHZZ	AP		C	Panel cable
26	QSW-Q2331XHZZ	AE		C	Tact switch(SW)
27	RUNTZ2080XH02	BA	N	E	LCD unit
28	PCUSU2196XHZZ	AE		C	Separate cushion
29	JBTN-2444XHSA	AQ	N	C	Tad key
B1	XEBSD20P06000	AA		C	Screw(2x6)
B2	XEBSD30P10000	AA		C	Screw(3x10)
	(Unit)				
901	DCEKP438CXH11	BG	N	E	Operation panel unit

[3] Document guide lower



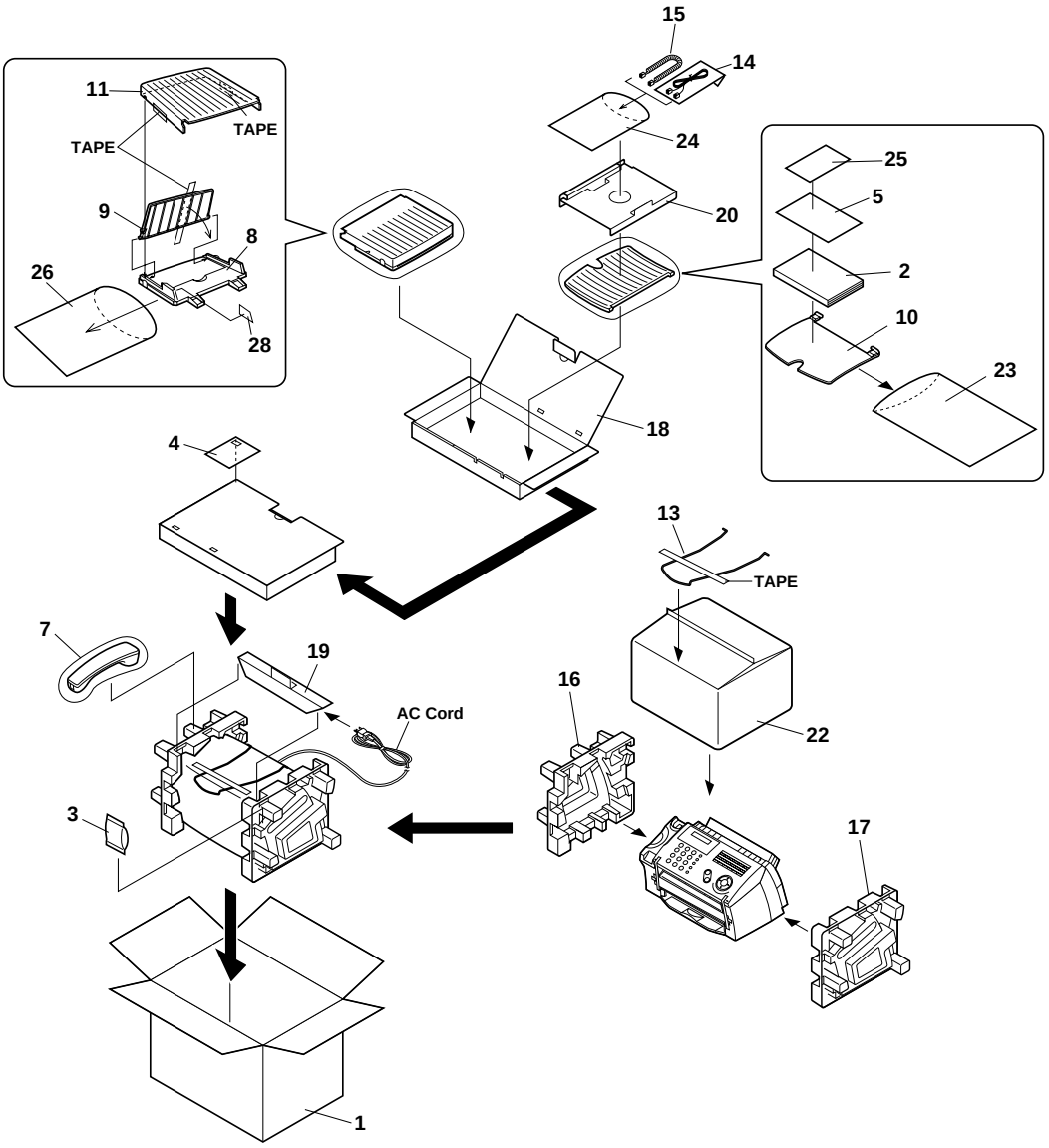
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] Document guide lower					
1	CGERH2614XH01	AP		E	Paper feed gear unit
2	CROLR2362XH04	AQ		E	Paper feed roller unit
3	GCOVA2477XHSC	AG	N	C	Connector cover
4	MLEVP2380XHZA	AE	N	C	Hook switch lever
5	MLEVP2381XHZZ	AE		C	Front sensor lever
6	MLEVP2382XHZZ	AE		C	Original sensor lever
7	MSPRC3301XHZZ	AB		C	Hopper spring
8	MSPRC3394XHZZ	AD		C	Hook switch lever spring
9	MSPRD3396XHZZ	AE		C	Front sensor lever spring
10	MSPRD3397XHZZ	AE		C	Original sensor lever spring
11	NGERP2318XHZZ	AD		C	Pinion gear
14	PGIDM2619XHVG	AG	N	C	Hopper guide,left
15	PGIDM2620XHVG	AG	N	C	Hopper guide,right
16	PGIDM2649XHSC	AV	N	C	Document guide lower
17	PSHEM3769XHZZ	AK		D	Earth sheet(2pcs.)
18	PSHEZ3763XHZZ	AE		C	Hopper sheet
B1	LX-BZ2222XHZZ	AC		C	Screw(3x6)

[4] Printer unit



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[4] Printer unit					
1	CROLR2497XH01	AY		C	Feed roller ass'y
2	CROLR2498XH01	AX		C	Paper up roller ass'y
3	DCEKH435CXH01	BM		E	Ink PWB unit with FPC
4	DCEKP440CXH01	BU		E	Printer PWB unit(Within ROM)
5	GCASP2167XHZZ	AF		C	Ink case
6	GCOVA2465XHZZ	AL		C	C/T front cover
7	GCOVA2466XHZZ	AG		C	C/T top cover
8	LANGF2858XHZZ	AL		C	Star wheel bracket
9	LBNDJ2006XHZZ	AA		C	Band(100mm)
10	LBSHP2138XHZZ	AD		C	Roller bearing
11	LBSHP2146XHZA	AE		C	C/T shaft bearing
12	LBSHP2150XHZZ	AE		C	Roller bearing B
13	CCHSM2076XH01	AY		E	Frame chassis ass'y
14	LFRM-2241XHZZ	AG		C	Drive frame
15	LFRM-2242XHZZ	AL		C	Star wheel base
16	LHLDR2212XHZS	AF		C	Press roller holder
17	LHLDZ2215XHZZ	AE		C	Cap holder
18	LHLDZ2220XHZZ	AD		C	FFC clamper
19	LHLDZ2221XHZZ	AD		C	FPC stopper side
20	LHLDZ2222XHZZ	AD		C	FPC stopper bottom
21	LHLDZ2245XHZZ	AM		C	Carrier
22	LHLDZ2246XHZZ	AE		C	C/T front holder
23	LHLDZ2247XHZZ	AG		C	C/T top holder
24	LHLDZ2248XHZZ	AG		C	Slide base
25	LHLDZ2249XHZZ	AG		C	Sled
26	LHLDZ2253XHZZ	AF		C	Idler Holder
28	LPLTP3266XHZZ	AD		C	Lever holder
29	MARMP2033XHZZ	AE		C	Friction arm
30	MLEVP2355XHZZ	AE		C	Sensor lever
31	MLEVP2377XHZZ	AE		C	C/T lock lever
32	MLEVP2378XHZZ	AE		C	Latch lever
33	MSPRC3270XHZZ	AD		C	Encoder spring
34	MSPRC3360XHZZ	AE		C	Star wheel spring
35	MSPRC3361XHZZ	AE		C	Idler spring
36	MSPRC3362XHZZ	AD		C	Cap spring
37	MSPRC3380XHZZ	AE		C	Feed gear spring
38	MSPRC3385XHZZ	AD		C	Latch lever spring
39	MSPRC3386XHZZ	AD		C	Sled spring
40	MSPRC3387XHZZ	AD		C	Friction gear spring
41	MSPRC3408XHZZ	AD		C	Press roller spring
42	MSPRC3414XHZZ	AE		C	MS spring
43	MSPRC3415XHZZ	AE		C	Star wheel spring 2
44	MSPRD3272XHZA	AD		C	Sensor lever spring
45	MSPRD3382XHZZ	AE		C	Front cover spring
46	MSPRD3383XHZZ	AE		C	Lock lever spring
47	MSPRD3413XHZZ	AE		C	Top cover spring
48	MSPRK3343XHZR	AE		C	Shaft spring,right
49	MSPRK3381XHZL	AE		C	Shaft spring,left
50	MSPRP3279XHZZ	AE		C	C/T lock spring
51	MSPRP3334XHZA	AF		C	C/T shaft spring
52	MSPRP3384XHZZ	AG		C	C/T side spring
53	MSPRP3388XHZZ	AE		C	Top holder spring
54	NBLTK2063XHZZ	AQ		C	Carrier belt
55	NGERH2608XHZZ	AF		C	Reduction gear 1
56	NGERH2609XHZZ	AE		C	Reduction gear 2
57	NGERH2610XHZZ	AE		C	Reduction gear 3
58	NGERH2611XHZZ	AE		C	Friction gear
59	NPLYD2095XHZZ	AE		C	Idler pulley
60	NROLM2480XHZZ	AE		C	Star wheel
61	NROLP2477XHZZ	AE		C	Press roller
62	NSFTM2343XHZZ	AD		C	Carrier shaft
63	PCAPH2090XHZZ	AE		C	Cap
64	PFLT-2028XHZZ	AE		C	Ink felt
65	PGUMM2189XHZZ	AE		C	Wiper
66	PGUMS2188XHZZ	AC		C	Rubber backer
67	PSHEP3657XHZA	AP		C	Encoder
68	RMOTS2181XHZZ	AY		B	Feed motor
69	RMOTZ2183XHZZ	BA		B	Carrier motor
B1	XBPSD26P04J00	AB		C	Screw(2.6x4)
B2	XEPSD26P06000	AA		C	Screw(2.6x6)
B3	XHBSD30P06000	AA		C	Screw(3x6)
B4	XHBSE30P10000	AA		C	Screw(3x10)

[5] Packing material & Accessories



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[5] Packing material & Accessories					
1	CPAKC364FXH01	AY	N	D	Packing case with label
2	TINSE4404XHTZ	BD	N	D	Operation manual
3	UINK-2034XHZZ	AE		S	Print cartridge(Intial cartridge)
4	TCADH3657XHZZ	AQ	N	D	Setup guide
5	TCADZ2891XHZZ	AF		D	Registration card
7	DUNTK497CXHMG	AY	N	E	Handset
8	LPLTP2889XHVC	AR	N	C	Paper tray
9	LPLTP2890XHVC	AL	N	C	Tray extension
10	LPLTP3264XHSC	AS	N	C	Document tray
11	PCOVA2115XHVD	AY	N	C	Paper tray cover
13	PWIR-2082XHZZ	AU		C	Document exit support
⚠ 14	QCNWG370BXHZZ	AL		C	Telephone line cord
⚠ 15	QCNWG209BXHGY	AN		C	Handset cord
16	SPAKA219EXHZZ	AK		D	Packing add.,left
17	SPAKA220EXHZZ	AK		D	Packing add.,right
18	SPAKA221EXHZZ	AL		D	Accessory case
19	SPAKA295EXHZZ	AF		D	AC cord sleeve
20	SPAKA296EXHZZ	AE		D	Tray protect case
22	SPAKP223EXHZZ	AG		D	Body cover
23	SSAKA2340QCZZ	AA		D	Vinyl bag,operation manual(240x360mm)
24	SSAKA3001CCZZ	AA		D	Vinyl bag,handset cord(140x360mm)
25	TLABH446EXHZZ	AE		D	Rapid key labels
26	SSAKA2008XHZZ	AA		D	Vinylbag,Paper tray
28	TLABH445EXHZZ	AG		C	Paper set upper label

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[6] Control PWB unit						
1	UBATL2049SCZZ	AF		B	Battery(CR2032T23)	[BAT1]
2	VCEAPSOJC157M	AF		C	Capacitor(6WV 150μF)	[C1]
3	VCEAGA1EW476M	AA		C	Capacitor(25WV 47μF)	[C2]
4	VCEAGA1EW476M	AA		C	Capacitor(25WV 47μF)	[C4]
5	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C5]
6	VCEAGA0JW227M	AD		C	Capacitor(6.3WV 220μF)	[C6]
7	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF)	[C7]
8	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C8]
9	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C9]
10	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C10]
11	VCEAGA1HW106M	AA		C	Capacitor(50WV 10μF)	[C11]
12	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C13]
13	VCKYCY1HB471K	AB		C	Capacitor(50WV 470PF)	[C14]
14	VCEAGA0JW227M	AD		C	Capacitor(6.3WV 220μF)	[C15]
15	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C16]
16	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C17]
17	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C18]
18	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C19]
19	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C20]
20	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C21]
21	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C22]
22	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C23]
23	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C24]
24	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C25]
25	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C26]
26	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C27]
27	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C28]
28	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C29]
29	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C30]
30	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C31]
31	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C32]
32	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C33]
33	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C100]
34	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C101]
35	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C102]
36	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C103]
37	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C104]
38	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C113]
39	VCKYCY1CB104K	AB		C	Capacitor(50WV 0.1μF)	[C114]
40	VCKYCY1HB472K	AA		C	Capacitor(50WV 4700PF)	[C115]
41	VCKYCY1HB103K	AA		C	Capacitor(50WV 0.01μF)	[C116]
42	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C126]
43	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C127]
44	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C131]
45	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C137]
46	VCKYCY1AB105K	AB		C	Capacitor(10WV 1μF)	[C143]
47	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C148]
48	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C149]
49	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C150]
50	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C151]
51	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C152]
52	VCCCCY1HH470J	AA		C	Capacitor(50WV 47PF)	[C160]
53	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF)	[C166]
54	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF)	[C167]
55	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C170]
56	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C171]
57	VCCCCY1HH3R0C	AA		C	Capacitor(50WV 3PF)	[C183]
58	VCKYCY1AB105K	AB		C	Capacitor(10WV 1μF)	[C184]
59	VCKYCY1AB105K	AB		C	Capacitor(10WV 1μF)	[C186]
60	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[C187]
61	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[C191]
62	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C192]
63	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C193]
64	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C194]
65	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C195]
66	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C196]
67	VCCCCY1HH220J	AA		C	Capacitor(50WV 22PF)	[C197]
68	VCCCCY1HH220J	AA		C	Capacitor(50WV 22PF)	[C198]
69	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C209]
70	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C210]
71	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C211]
72	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C212]
73	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1μF)	[C213]
74	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C214]
75	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C215]
76	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C216]
77	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C217]
78	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C218]
79	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C219]
80	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF)	[C220]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[6] Control PWB unit						
81	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C221]
82	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C222]
83	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C223]
84	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C225]
85	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C226]
86	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C227]
87	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C228]
88	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C229]
89	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C230]
90	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C233]
91	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C234]
92	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C235]
93	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C236]
94	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C237]
95	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C238]
96	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C239]
97	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C243]
98	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C244]
99	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C245]
100	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C248]
101	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C249]
102	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C250]
103	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C251]
104	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C253]
105	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C254]
106	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C255]
107	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C256]
108	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C257]
109	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C258]
110	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C259]
111	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C260]
112	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C265]
113	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C266]
114	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C267]
115	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C268]
116	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C269]
117	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C271]
118	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C272]
119	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C273]
120	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C276]
121	QCNCM7014SC0G	AB		C	Connector(7pin)	[CNCIS]
122	QCNCW2500SC1B	AF		C	Connector(12pin)	[CNLIUA]
123	QCNCM7014SC0F	AB		C	Connector(6pin)	[CNMT]
124	QCNCM7014SC1B	AD		C	Connector(12pin)	[CNPN]
125	QCNCM7014SC0C	AA		C	Connector(3pin)	[CNPRG]
126	QCNCM2482SC2H	AG		C	Connector(28pin)	[CNPRT]
127	QCNCM7014SC0H	AB		C	Connector(8pin)	[CNPW]
128	QCNCM2401SC0B	AA		C	Connector(2pin)	[CNSP]
129	VHD1SS355//-1	AB		B	Diode(1SS355)	[D102]
130	VHD1SS355//-1	AB		B	Diode(1SS355)	[D104]
131	VHD1SS355//-1	AB		B	Diode(1SS355)	[D105]
132	VHD1SS355//-1	AB		B	Diode(1SS355)	[D106]
133	VHD1SS355//-1	AB		B	Diode(1SS355)	[D107]
134	VHDHRW0202B-1	AD		B	Diode(HRW0202B)	[D108]
⚠ 135	QFS-L1026YCZZ	AE		B	Fuse(KAB5002 501)	[FU100]
⚠ 136	QFS-L2016XHZZ	AD		B	Fuse(KAB5002 201)	[FU101]
137	RH-IX2356XHZZ	AL		B	IC,Driver(ULN2001A)	[IC2]
138	RH-IX2270XHZZ	AL		B	IC,Analog multiplexer(SN74LV4051ANSR)	[IC3]
139	RH-IX2288SCZZ	BE		B	IC,16M DRAM(1S41LV8205)	[IC4]
140	VHIF004/TC02C	BC	N	B	IC FLASH ROM(4MB)Ver.TC02C(DROM-887SXH01)	[IC5]
141	RH-IX2379XHZZ	AZ		B	IC,FLASH ROM(4MB)(Pm39LV040-70)	[IC6]
142	VHINJM2113M-1	AG		B	IC,Speaker AMP.(NJM2113M)	[IC8]
143	RH-IX2306SCZZ	BF		B	IC,Original Asic(µPD65944)	[IC12]
144	VHISCE214V/-1	AF		B	IC,FAX Engine(SCE214V)	[IC16]
145	RH-IX2168SCZZ	BB		B	IC,DRAM(4Mb)(MSM51V4800E)	[IC19]
146	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[L1]
147	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[L100]
148	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[L101]
149	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[L102]
150	VRS-CY1JB150J	AA		C	Resistor(1/16W 15Ω ±5%)	[L103]
151	VRS-TS2AD3R0J	AA		C	Resistor(1/10W 3Ω ±5%)	[L104]
⚠ 152	VHPGP1S58V/-1	AE		B	Original sensor(GP7S58VS)	[PH1]
⚠ 153	VHPGP1S58V/-1	AE		B	Front sensor(GP7S58VS)	[PH2]
⚠ 154	VHPGP1S58V/-1	AE		B	DR sensor(GP7S58VS)	[PH100]
155	VS2SA1530AS-1	AC		B	Transistor(2SA1530AS)	[Q100]
156	VSRT1N141C/-1	AB		B	Transistor(RT1N141C)	[Q101]
157	VSRT1N141C/-1	AB		B	Transistor(RT1N141C)	[Q102]
158	VSRT1N141C/-1	AB		B	Transistor(RT1N141C)	[Q103]
159	VRS-HT3DA221J	AB		C	Resistor(2W 220Ω ±5%)	[R1]
160	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R2]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[6] Control PWB unit						
161	VRS-RE3DA110J	AE		C	Resistor(2W 11Ω ±5%)	[R3]
162	VRS-CY1JB104J	AA		C	Resistor(1/16W 100KΩ ±5%)	[R4]
163	VRS-CY1JB104J	AA		C	Resistor(1/16W 100KΩ ±5%)	[R5]
164	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R6]
165	VRS-CY1JB431J	AC		C	Resistor(1/16W 430Ω ±5%)	[R100]
166	VRS-CY1JB431J	AC		C	Resistor(1/16W 430Ω ±5%)	[R101]
167	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R102]
168	VRS-CY1JB5R1J	AC		C	Resistor(1/16W 5.1Ω ±5%)	[R103]
169	VRS-CY1JB512J	AA		C	Resistor(1/16W 5.1KΩ ±5%)	[R104]
170	VRS-CY1JB513J	AA		C	Resistor(1/16W 51KΩ ±5%)	[R105]
171	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R106]
172	VRS-CY1JB431J	AC		C	Resistor(1/16W 430Ω ±5%)	[R107]
173	VRS-CY1JB431J	AC		C	Resistor(1/16W 430Ω ±5%)	[R108]
174	VRS-CY1JB243J	AA		C	Resistor(1/16W 24KΩ ±5%)	[R109]
175	VRS-CY1JB204J	AA		C	Resistor(1/16W 200KΩ ±5%)	[R110]
176	VRS-CY1JB124J	AA		C	Resistor(1/16W 120KΩ ±5%)	[R111]
177	VRS-CY1JB513J	AA		C	Resistor(1/16W 51KΩ ±5%)	[R112]
178	VRS-CY1JB474J	AA		C	Resistor(1/16W 470KΩ ±5%)	[R113]
179	VRS-CY1JB155J	AB		C	Resistor(1/16W 1.5MΩ ±5%)	[R114]
180	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R126]
181	VRS-CY1JB302J	AA		C	Resistor(1/16W 3KΩ ±5%)	[R127]
182	VRS-CY1JB153J	AA		C	Resistor(1/16W 15KΩ ±5%)	[R128]
183	VRS-CY1JB133J	AA		C	Resistor(1/16W 13KΩ ±5%)	[R129]
184	VRS-CY1JB203J	AA		C	Resistor(1/16W 20KΩ ±5%)	[R130]
185	VRS-CY1JB224J	AA		C	Resistor(1/16W 220KΩ ±5%)	[R131]
186	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R132]
187	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R133]
188	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R145]
189	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R146]
190	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R147]
191	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R148]
192	VRS-CY1JB392J	AA		C	Resistor(1/16W 3.9KΩ ±5%)	[R153]
193	VRS-CY1JB752J	AA		C	Resistor(1/16W 7.5KΩ ±5%)	[R154]
194	VRS-CY1JB105J	AA		C	Resistor(1/16W 1MΩ ±5%)	[R155]
195	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R156]
196	VRS-CY1JB330J	AA		C	Resistor(1/16W 33Ω ±5%)	[R162]
197	VRS-CY1JB330J	AA		C	Resistor(1/16W 33Ω ±5%)	[R163]
198	VRS-CY1JB330J	AA		C	Resistor(1/16W 33Ω ±5%)	[R164]
199	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R165]
200	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R166]
201	VRS-CY1JB471J	AA		C	Resistor(1/16W 470Ω ±5%)	[R168]
202	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R169]
203	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R170]
204	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R171]
205	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R172]
206	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R173]
207	VRS-CY1JB431J	AC		C	Resistor(1/16W 430Ω ±5%)	[R174]
208	VRS-CY1JB431J	AC		C	Resistor(1/16W 430Ω ±5%)	[R175]
209	VRS-CY1JB105J	AA		C	Resistor(1/16W 1MΩ ±5%)	[R177]
210	VRS-CY1JB393J	AA		C	Resistor(1/16W 39KΩ ±5%)	[R178]
211	VRS-CY1JB151J	AA		C	Resistor(1/16W 150Ω ±5%)	[R185]
212	VRS-CY1JB680J	AA		C	Resistor(1/16W 68Ω ±5%)	[R188]
213	VRS-CY1JB680J	AA		C	Resistor(1/16W 68Ω ±5%)	[R189]
214	VRS-CY1JB151J	AA		C	Resistor(1/16W 150Ω ±5%)	[R190]
215	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R191]
216	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R192]
217	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R193]
218	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R199]
219	RCILZ2179XHZZ	AE		C	Coil(BLM18HG102SNID)	[R200]
220	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R205]
221	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R206]
222	VRS-CY1JB151J	AA		C	Resistor(1/16W 150Ω ±5%)	[R207]
223	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R208]
224	VRS-CY1JB151J	AA		C	Resistor(1/16W 150Ω ±5%)	[R209]
225	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R210]
226	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R211]
227	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R212]
228	VRS-CY1JB271J	AA		C	Resistor(1/16W 270Ω ±5%)	[R213]
229	VRS-CY1JB680J	AA		C	Resistor(1/16W 68Ω ±5%)	[R214]
230	VRS-CY1JB106J	AA		C	Resistor(1/16W 10MΩ ±5%)	[R215]
231	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%)	[R216]
232	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%)	[R217]
233	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%)	[R218]
234	VRS-CY1JB222J	AA		C	Resistor(1/16W 2.2KΩ ±5%)	[R220]
235	VRS-CY1JB224J	AA		C	Resistor(1/16W 220KΩ ±5%)	[R222]
236	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R223]
237	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R224]
238	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R225]
239	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R227]
240	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R228]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[6] Control PWB unit						
241	VRS-CY1JB562J	AA		C	Resistor(1/16W 5.6KΩ ±5%)	[R230]
242	VRS-CY1JB560J	AA		C	Resistor(1/16W 56Ω ±5%)	[R235]
243	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R237]
244	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R238]
245	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R241]
246	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R242]
247	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R244]
248	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R245]
249	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R246]
250	VRS-TS2AD000J	AA		C	Resistor(1/10W 0Ω ±5%)	[R247]
251	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA1]
252	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA2]
253	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA3]
254	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA4]
255	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA5]
256	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA6]
257	RR-TZ3023SCZZ	AC		B	Resistor array(100Ωx4)	[RA7]
258	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA8]
259	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA9]
260	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA10]
261	RR-TZ3023SCZZ	AC		B	Resistor array(100Ωx4)	[RA11]
262	RR-TZ3023SCZZ	AC		B	Resistor array(100Ωx4)	[RA12]
263	RR-TZ3023SCZZ	AC		B	Resistor array(100Ωx4)	[RA13]
264	RR-TZ3017SCZZ	AC		B	Resistor array(270Ωx4)	[RA14]
265	RR-TZ3018SCZZ	AC		B	Resistor array(470Ωx4)	[RA15]
266	RR-TZ3023SCZZ	AC		B	Resistor array(100Ωx4)	[RA16]
267	RR-TZ3023SCZZ	AC		B	Resistor array(100Ωx4)	[RA17]
268	RH-IX2360XHZZ	AL		B	IC,+3.3V REG(S-815A33AMC)	[REG3]
269	RH-IX2360XHZZ	AL		B	IC,+3.3V REG(S-815A33AMC)	[REG4]
270	VHINJM78M24DL	AM		B	IC,24V Regulator(NJM78M24DL1A)	[REG5]
271	RCRSP2190SCZZ	AE		B	Crystal(32.256MHz)	[X1]
272	RCRSB2185XHZZ	AD		B	Crystal(32.768kHz)	[X3]
273	VHE1N4744A/-1	AE		B	Zener diode(1N4744A)	[ZD1]
	(Unit)					
901	DCEKC887SXHZZ	CA	N	E	Control PWB unit(Within ROM)	
[7] TEL/LIU PWB unit						
1	VHVRA391PV6-1	AE		B	Varistor(RA-391P-V6-2)	[AR1]
2	VHVRA501PC6-1	AG		B	Varistor(RA501P-C6)	[AR2]
3	VHVRA501PC6-1	AG		B	Varistor(RA501P-C6)	[AR3]
4	RC-FZ3024SCZZ	AG		C	Capacitor(250WV 0.82µF)	[C2]
5	VCKYPA1HB103K	AA		C	Capacitor(50WV 0.01µF)	[C5]
6	VCEAGA1HW226M	AB		C	Capacitor(50WV 22µF)	[C10]
7	VCEAGA1CW476M	AB		C	Capacitor(16WV 47µF)	[C11]
8	VCEAGA1HW107M	AA		C	Capacitor(50WV 100µF)	[C13]
9	VCEAGA1HW226M	AB		C	Capacitor(50WV 22µF)	[C14]
10	VCEAGA1HW226M	AB		C	Capacitor(50WV 22µF)	[C15]
11	VCEAGA1HW226M	AB		C	Capacitor(50WV 22µF)	[C17]
12	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C103]
13	VHD1SS355//-1	AB		B	Diode(1SS355)	[C104]
14	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C105]
15	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C107]
16	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C108]
17	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C111]
18	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C112]
19	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C113]
20	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C114]
21	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C116]
22	VCCCCY1HH330J	AA		C	Capacitor(50WV 33PF)	[C118]
23	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C123]
24	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C124]
25	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C125]
26	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C127]
27	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[C129]
28	VCKYCY1CB104K	AB		C	Capacitor(16WV 0.1µF)	[C130]
29	VCKYTV1CF105Z	AB		C	Capacitor(16WV 1µF)	[C131]
30	VCCCCY1HH330J	AA		C	Capacitor(50WV 33PF)	[C132]
31	VCKYCY1HB821K	AA		C	Capacitor(50WV 820PF)	[C133]
32	RRLYD3436XHZZ	AP		B	Relay(A5X-24E-908)	[CML]
33	QJAKZ2079XH0D	AD		C	Jack(4pin)	[CNHJ]
34	QCNCM2548SC1B	AH		C	Connector(12pin)	[CNLIUA]
35	QJAKZ2060SC0B	AD		C	Jack	[CNLNJ]
36	QJAKZ2060SC0B	AD		C	Jack	[CNTLJ]
37	VHDDSS133//-1	AA		B	Diode(1SS133)	[D1]
38	VHDDSS133//-1	AA		B	Diode(1SS133)	[D2]
39	RH-IX2287SCZZ	AG		B	IC,Ope amp.(HA17324AFEL)	[IC101]
40	RFILN2027XHZZ	AC		C	Coil(R-5C)	[L9]
41	VHPPC814X//-1	AE		B	Photo coupler(PC814X)	[PC1]
42	VHPPC817X4/-1	AC		B	Photo coupler(PC817X4)	[PC2]
⚠ 43	VHPGP1S58V/-1	AE		B	Photo transistor(GP7S58VS)	[PH1]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[7] TEL/LIU PWB unit					
44	VSKTC3198GR-1	AD		B	Transistor(KTC3198GR) [Q2]
45	VSRT1N436C/-1	AD		B	Transistor(RT1N436C) [Q101]
46	VSRT1N436C/-1	AD		B	Transistor(RT1N436C) [Q102]
47	VSRT1N436C/-1	AD		B	Transistor(RT1N436C) [Q103]
48	VSRT1P141C+-1	AB		B	Transistor(RT1P141C) [Q104]
49	VRD-HT2HY223J	AA		C	Resistor(1/2W 22KΩ ±5%) [R1]
50	VRD-HT2EY300J	AA		C	Resistor(1/4W 30Ω ±5%) [R8]
51	VRS-RE3AA122J	AC		C	Resistor(1W 1.2KΩ ±5%) [R10]
52	VRD-HT2EY910J	AA		C	Resistor(1/4W 91Ω ±5%) [R11]
53	VRS-RE2HA101J	AB		C	Resistor(1/2W 100Ω ±5%) [R12]
54	VRD-HT2HY202J	AA		C	Resistor(1/2W 2KΩ ±5%) [R13]
55	VRD-HT2EY101J	AA		C	Resistor(1/4W 100Ω ±5%) [R14]
56	VRD-HT2EY151J	AA		C	Resistor(1/4W 150Ω ±5%) [R15]
57	VRS-TS2AD223J	AA		C	Resistor(1/10W 22KΩ ±5%) [R101]
58	VRS-CY1JB224J	AA		C	Resistor(1/16W 220KΩ ±5%) [R107]
59	VRS-CY1JB133J	AA		C	Resistor(1/16W 13KΩ ±5%) [R108]
60	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R109]
61	VRS-CY1JB822J	AA		C	Resistor(1/16W 8.2KΩ ±5%) [R111]
62	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%) [R112]
63	VRS-CY1JB822J	AA		C	Resistor(1/16W 8.2KΩ ±5%) [R114]
64	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%) [R115]
65	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%) [R116]
66	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%) [R117]
67	VRS-CY1JB152J	AA		C	Resistor(1/16W 1.5KΩ ±5%) [R119]
68	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%) [R120]
69	VRS-CY1JB823J	AD		C	Resistor(1/16W 82KΩ ±5%) [R121]
70	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%) [R125]
71	VRS-CY1JB163J	AA		C	Resistor(1/16W 16KΩ ±5%) [R126]
72	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R127]
73	VRS-CY1JB362J	AA		C	Resistor(1/16W 3.6KΩ ±5%) [R128]
74	VRS-CY1JB621J	AA		C	Resistor(1/16W 620Ω ±5%) [R129]
75	VRS-TS2AD332J	AA		C	Resistor(1/10W 3.3KΩ ±5%) [R131]
76	VRS-CY1JB822J	AA		C	Resistor(1/16W 8.2KΩ ±5%) [R132]
77	VRS-CY1JB243J	AA		C	Resistor(1/16W 24KΩ ±5%) [R133]
78	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%) [R134]
79	VRS-CY1JB153J	AA		C	Resistor(1/16W 15KΩ ±5%) [R135]
80	VRS-CY1JB332J	AA		C	Resistor(1/16W 3.3KΩ ±5%) [R136]
81	VRS-CY1JB223J	AA		C	Resistor(1/16W 22KΩ ±5%) [R137]
82	VRS-CY1JB393J	AA		C	Resistor(1/16W 39KΩ ±5%) [R138]
⚠ 83	RTRNI2164XHZZ	AG		B	Transformer(I2164) [T1]
84	VHEHZ27-1//-1	AB		B	Zener diode(HZ27-1) [ZD2]
85	VHEHZ2A1///-1	AC		B	Zener diode(HZ2A1) [ZD5]
86	VHEHZ2A1///-1	AC		B	Zener diode(HZ2A1) [ZD6]
87	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1) [ZD7]
88	VHEHZ2C1///-1	AA		B	Zener diode(HZ2C1) [ZD8]
89	VHEHZ6A3///-1	AC		B	Zener diode(HZ6A3) [ZD9]
90	VHEHZ9C3///-1	AE		B	Zener diode(HZ9C3) [ZD11]
	(Unit)				
901	DCEKL434CXH01	BF		E	TEL/LIU PWB unit
[8] Printer PWB unit					
1	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF) [C1]
2	VCEAGA1HW476M	AB		C	Capacitor(50WV 47μF) [C2]
3	VCEAGA1HW107M	AA		C	Capacitor(50WV 100μF) [C3]
4	VCEAGA1HW226M	AB		C	Capacitor(50WV 22μF) [C4]
5	VCEAGA1EW227M	AB		C	Capacitor(25WV 220μF) [C5]
6	VCEAGA1HW476M	AB		C	Capacitor(50WV 47μF) [C6]
7	VCEAGA0JW227M	AD		C	Capacitor(6.3WV 220μF) [C7]
8	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C24]
9	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF) [C25]
10	VCCCCY1HH150J	AB		C	Capacitor(50WV 15PF) [C102]
11	VCCCCY1HH150J	AB		C	Capacitor(50WV 15PF) [C107]
12	VCCCCY1HH100D	AA		C	Capacitor(50WV 10PF) [C114]
13	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF) [C115]
14	VCKYCY1HB103K	AA		C	Capacitor(50WV 0.01μF) [C116]
15	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF) [C117]
16	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF) [C118]
17	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1μF) [C119]
18	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF) [C120]
19	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF) [C121]
20	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF) [C122]
21	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF) [C123]
22	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF) [C124]
23	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF) [C125]
24	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C127]
25	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C128]
26	VCKYCY1HB332K	AA		C	Capacitor(50WV 3300PF) [C129]
27	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C131]
28	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C132]
29	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF) [C133]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[8] Printer PWB unit						
30	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C134]
31	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C136]
32	VCCCCY1HH100D	AA		C	Capacitor(50WV 10PF)	[C137]
33	VCCCCY1HH100D	AA		C	Capacitor(50WV 10PF)	[C138]
34	VCCCCY1HH100D	AA		C	Capacitor(50WV 10PF)	[C139]
35	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C140]
36	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C141]
37	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C142]
38	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C143]
39	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C144]
40	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C145]
41	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C146]
42	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C147]
43	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C148]
44	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C150]
45	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C151]
46	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C153]
47	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C154]
48	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C156]
49	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C157]
50	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C158]
51	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C159]
52	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C160]
53	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C161]
54	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C162]
55	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C167]
56	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C168]
57	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C169]
58	VCKYCY1HB272K	AB		C	Capacitor(50WV 2700PF)	[C171]
59	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C172]
60	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C173]
61	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C174]
62	VCKYCY1HB222K	AA		C	Capacitor(50WV 2200PF)	[C175]
63	VCKYCY1HB103K	AA		C	Capacitor(50WV 0.01µF)	[C176]
64	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C177]
65	VCCCCY1HH221J	AA		C	Capacitor(50WV 220PF)	[C181]
66	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C183]
67	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C184]
68	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C185]
69	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C186]
70	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C187]
71	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C188]
72	VCKYCY1AF105Z	AC		C	Capacitor(10WV 1µF)	[C190]
73	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1µF)	[C191]
74	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C197]
75	VCKYCY1HB102K	AA		C	Capacitor(50WV 1000PF)	[C198]
76	VCCCCY1HH101J	AA		C	Capacitor(50WV 100PF)	[C200]
77	VCCCCY1HH331J	AB		C	Capacitor(50WV 330PF)	[C201]
78	VCCCCY1HH331J	AB		C	Capacitor(50WV 330PF)	[C202]
79	VCCCCY1HH331J	AB		C	Capacitor(50WV 330PF)	[C203]
80	VCCCCY1HH331J	AB		C	Capacitor(50WV 330PF)	[C204]
81	VCCCCY1HH331J	AB		C	Capacitor(50WV 330PF)	[C205]
82	QCNCM7014SC0B	AD		C	Connector(2pin)	[CNCRMT]
83	QCNCM7014SC0D	AB		C	Connector(4pin)	[CNFDMT]
84	QCNCW2556SC1B	AG		C	Connector(12pin)	[CNHEAD1]
85	QCNCW2556SC1B	AG		C	Connector(12pin)	[CNHEAD2]
86	QCNCM2482SC2H	AG		C	Connector(28pin)	[CNPRINT]
87	VHDU1GC44//-1	AC		B	Diode(U1GC44)	[D1]
88	VHDSS16////-1	AF		B	Diode(SS16)	[D2]
89	VHDSS14////-1	AF		B	Diode(SS14)	[D3]
90	VHDSS14////-1	AF		B	Diode(SS14)	[D4]
91	VHDSS14////-1	AF		B	Diode(SS14)	[D5]
92	VHDSS14////-1	AF		B	Diode(SS14)	[D6]
93	VHDSS14////-1	AF		B	Diode(SS14)	[D7]
94	VHDSS14////-1	AF		B	Diode(SS14)	[D8]
95	VHD1SS355//-1	AB		B	Diode(1SS355)	[D100]
⚠ 96	QFS-L1027YCZZ	AE		B	Fuse	[FU1]
97	RH-IX2314XHZZ	BF		B	IC,Hurricane 208(LQFP208)	[IC1]
98	RH-IX2322XHZZ	AM		B	IC,EEPROM(S-24CO4B)	[IC2]
99	VHIPC901054-1	AY		B	IC,Thunderbolt(PLCC44)	[IC3]
100	VHIPQ1X251M-1	AL		B	IC,+2.5V Regulater(PQ1X251M2ZP)	[IC4]
101	RH-IX2289XHZZ	AZ		B	IC,DRAM 4M(IS41LV16256)	[IC5]
102	VHIF001/TA71F	BA		B	IC FLASH ROM(1M)Ver.TA71F(DROM-440CXH0A)	[IC6]
103	RCILF2175XHZZ	AL		C	Coil(680µH)	[L1]
104	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[L100]
105	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[L101]
106	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[L102]
107	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[L103]
108	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[L104]
109	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[L105]

	NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
	[8] Printer PWB unit						
⚠	110	VHPGP1S094HCZ	AG		B	P-IN sensor(GP1S094HCZ)	[PI1]
	111	VS2SC3052F/-1	AD		B	Transistor(2SC3052F)	[Q100]
	112	VS2SC3052F/-1	AD		B	Transistor(2SC3052F)	[Q101]
	113	VRS-HT3AAR91J	AB		C	Resistor(1W 0.91Ω ±5%)	[R1]
	114	VRS-HT3AAR91J	AB		C	Resistor(1W 0.91Ω ±5%)	[R2]
	115	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R105]
	116	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R106]
	117	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R107]
	118	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R108]
	119	VRS-CY1JB512J	AA		C	Resistor(1/16W 5.1KΩ ±5%)	[R109]
	120	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%)	[R110]
	121	VRS-CY1JB362F	AC		C	Resistor(1/16W 3.6KΩ ±1%)	[R111]
	122	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%)	[R112]
	123	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R113]
	124	VRS-CY1JB105J	AA		C	Resistor(1/16W 1MΩ ±5%)	[R114]
	125	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R116]
	126	VRS-CY1JB472J	AA		C	Resistor(1/16W 4.7KΩ ±5%)	[R117]
	127	VRSCY1JB7871F	AA		C	Resistor(1/16W 7.87KΩ ±1%)	[R118]
	128	VRSCY1JB1000F	AA		C	Resistor(1/16W 100Ω ±1%)	[R119]
	129	VRS-CY1JB202F	AC		C	Resistor(1/16W 2.0KΩ ±1%)	[R120]
	130	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R121]
	131	VRS-CY1JB101J	AA		C	Resistor(1/16W 100Ω ±5%)	[R122]
	132	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R125]
	133	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R126]
	134	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R127]
	135	VRS-CY1JB473J	AA		C	Resistor(1/16W 47KΩ ±5%)	[R128]
	136	VRS-CY1JB121J	AA		C	Resistor(1/16W 120Ω ±5%)	[R129]
	137	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R134]
	138	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R135]
	139	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R136]
	140	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R138]
	141	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R139]
	142	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R140]
	143	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R143]
	144	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R144]
	145	VRS-CY1JB472J	AA		C	Resistor(1/16W 4.7KΩ ±5%)	[R145]
	146	VRS-CY1JB471J	AA		C	Resistor(1/16W 470Ω ±5%)	[R146]
	147	VRS-CY1JB121J	AA		C	Resistor(1/16W 120Ω ±5%)	[R147]
	148	VRS-CY1JB473J	AA		C	Resistor(1/16W 47KΩ ±5%)	[R148]
	149	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R151]
	150	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R152]
	151	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R153]
	152	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R154]
	153	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R155]
	154	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R156]
	155	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R157]
	156	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R158]
	157	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R159]
	158	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R160]
	159	VRS-CY1JB103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R161]
	160	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R162]
	161	VRS-CY1JB301J	AA		C	Resistor(1/16W 300Ω ±5%)	[R163]
	162	VRS-CY1JB330J	AA		C	Resistor(1/16W 33Ω ±5%)	[R164]
	163	VRS-CY1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R165]
	164	VRS-CY1JB512J	AA		C	Resistor(1/16W 5.1KΩ ±5%)	[R167]
	165	VRS-CY1JB102J	AA		C	Resistor(1/16W 1KΩ ±5%)	[R168]
	166	RR-TZ3012SCJ0	AB		B	Resistor array(100Ωx4)	[RA1]
	167	RR-TZ3016SCZZ	AA		B	Resistor array(33Ωx4)	[RA2]
	168	RR-DZ1115AFZZ	AC		B	Resistor array(10KΩx4)	[RA3]
	169	RR-TZ3012SCJ0	AB		B	Resistor array(100Ωx4)	[RA4]
	170	RR-TZ3012SCJ0	AB		B	Resistor array(100Ωx4)	[RA5]
	171	RR-TZ3012SCJ0	AB		B	Resistor array(100Ωx4)	[RA6]
	172	RR-TZ3012SCJ0	AB		B	Resistor array(100Ωx4)	[RA7]
	173	RCRMA2009XHZZ	AG		B	Crystal(48MHz)	[X1]
		(Unit)					
	901	DCEKP440CXH01	BU		E	Printer PWB unit(Within ROM)	
	[9] Power supply PWB unit						
	1	0KY0L551A0010	AE		C	Ferrite beads(BL02RN1)	[BEA1]
	2	0KY0W000A0050	AC		C	Wire(1/4W 0Ω)	[BEA101]
	3	0KY0C245Q1040	AM		C	Film capacitor(250WV 0.1μF)	[C1]
	4	0KYC3126KS121	AS	N	C	Electrolytic capacitor(200WV 120μF)	[C5]
	5	0KY0C176Q4720	AL		C	Ceramic capacitor(4700PF)	[C6]
	6	0KY0C176Q4720	AL		C	Ceramic capacitor(4700PF)	[C7]
	7	0KY0C1A9R2210	AG		C	Ceramic capacitor(1KWV 220PF)	[C8]
	8	0KYC1102EC472	AC		C	Ceramic capacitor(50WV 4700PF)	[C9]
	9	0KYC1102CC333	AC		C	Ceramic capacitor(25WV 0.033μF)	[C10]
	10	0KY0C1Q1E1010	AD		C	Ceramic capacitor(50WV 100PF)	[C11]
	11	0KY0C3A0E1510	AL		C	Electrolytic capacitor(50WV 150μF)	[C101]
	12	0KY0C3A0B3310	AL		C	Electrolytic capacitor(16WV 330μF)	[C102]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
[9] Power supply PWB unit						
13	0KY0C1Q2B1040	AD		C	Ceramic capacitor(16WV 0.1μF)	[C110]
14	0KY0K202B0080	AE		C	Connector(B8B-PH-K-S)	[CNPW]
15	0KY0K207B0020	AK		C	Connector(2pin)	[CNAC]
16	0KY0D251A0020	AD		B	Diode(1SS133)	[D3]
17	0KY0D251A0020	AD		B	Diode(1SS133)	[D4]
18	0KY0D492A0050	AG		B	Zener diode(UDZ S5.6)	[D5]
19	0KY0D251A0020	AD		B	Diode(1SS133)	[D6]
20	0KY0D466A1050	AE		B	Zener diode(HZS30)	[D8]
21	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D10]
22	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D11]
23	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D12]
24	0KY0D157A0060	AG		B	Diode(ERA15-06)	[D13]
25	0KYD2049BQ202	AQ		B	Diode(ERC91-02)	[D101]
26	0KYD20Q1AQ001	AM	N	B	Diode(EC21QS03L)	[D103]
27	0KY0D461A3800	AK		B	Zener diode(HZ-36P)	[D104]
28	0KYK7124AS2R5	AL		B	Fuse(AC250V 2.5A)	[F1]
29	0KY0W000A0120	AC		C	Wire	[F101]
30	0KY0W000A0050	AC		C	Wire(1/4W 0Ω)	[F102]
31	0KY0H153A0020	AP		B	Integrated circuit(TA76431S)	[IC101]
32	0KY0W000A0150	AC		C	Wire	[J1]
33	0KY0W000A0050	AC		C	Wire(1/4W 0Ω)	[J2]
34	0KY0W000A0150	AC		C	Wire	[J3]
35	0KY0W000A0070	AC		B	Wire	[J101]
36	0KY0L110K2230	AS		C	Inductor(PLA10A2230R4)	[L1]
37	0KYH7148AS001	AM		B	Optical isolater(PC123)	[PC1]
38	0KYT2662KL001	AU	N	B	FET(2SK2662)	[Q1]
39	0KY0T395A0020	AG		B	Transistor(2SC4097)	[Q2]
40	0KYR3131AC225	AC		C	Resistor(1/4W 2.2MΩ)	[R1]
41	0KYR3120TC184	AB		C	Resistor(1/8W 180KΩ)	[R2]
42	0KYR3120TC184	AB		C	Resistor(1/8W 180KΩ)	[R3]
43	0KYR3120TC153	AB		C	Resistor(1/8W 15KΩ ±5%)	[R5]
44	0KYR3121TC751	AC	N	C	Resistor(1/8W 750Ω)	[R6]
45	0KYR3111VC333	AB		C	Resistor(1/16W 33KΩ)	[R8]
46	0KYR3111VC101	AB		C	Resistor(1/16W 100Ω)	[R9]
47	0KYR3111VC682	AB		C	Resistor(1/16W 6.8KΩ ±5%)	[R10]
48	0KYR3120TC133	AB		C	Resistor(1/8W 13KΩ)	[R11]
49	0KYR3111VC273	AB		C	Resistor(1/16W 27KΩ)	[R12]
50	0KYR3111VC122	AC		C	Resistor(1/16W 1.2KΩ)	[R13]
51	0KYR3111VC681	AB		C	Resistor(1/16W 680Ω ±5%)	[R17]
52	0KYR3121TC271	AC	N	C	Resistor(1/8W 270Ω)	[R19]
53	0KYR3131AC225	AC		C	Resistor(1/4W 2.2MΩ)	[R41]
54	0KYR3131AC822	AC		C	Resistor(1/4W 8.2KΩ)	[R101]
55	0KY0R153U5620	AC		C	Resistor(1/4W 5.6KΩ ±5%)	[R103]
56	0KY0R153U5620	AC		C	Resistor(1/4W 5.6KΩ ±5%)	[R104]
57	0KYR3131AC822	AC		C	Resistor(1/4W 8.2KΩ)	[R105]
58	0KYR3131AC822	AC		C	Resistor(1/4W 8.2KΩ)	[R106]
59	0KYR3131AC562	AC		C	Resistor(1/4W 5.6KΩ ±5%)	[R107]
60	0KYR3111VC101	AB		C	Resistor(1/16W 100Ω)	[R110]
61	0KYR3121TC272	AB		C	Resistor(1/8W 2.7KΩ)	[R111]
62	0KYR3111VC821	AB		C	Resistor(1/16W 820Ω)	[R112]
63	0KYR3120TC622	AC	N	C	Resistor(1/8W 6.2KΩ)	[R113]
64	0KYR3114VC562	AC	N	C	Resistor(1/16W 5.6KΩ)	[R115]
65	0KYL2100DS007	AY		B	Transformer(07D1)	[T1]
66	0KY0R854E1020	AG		C	Variable resistor(1/10W 1KΩ)	[VR101]
67	0KYD7062AQ241	AH		C	Transient voltage surge suppressor(ENC241)	[Z1]
	(Unit)					
⚠ 901	RDENT2202XHZZ	BK		E	Power supply PWB unit	
[10] Operation panel PWB unit						
901	DCEKP439CXH03	BG	N	E	Operation panel PWB unit	
[11] Ink PWB unit						
1	RC-EZ3074XHZZ	AG		C	Capacitor(25WV 1000μF)	[C1]
2	VCCCCY1HH181J	AA		C	Capacitor(50WV 180PF)	[C100]
3	VCCCCY1HH181J	AA		C	Capacitor(50WV 180PF)	[C101]
4	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C102]
5	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C104]
6	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C106]
7	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C107]
8	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C108]
9	VCKYCY1HF104Z	AA		C	Capacitor(50WV 0.1μF)	[C111]
10	QCNWN335BXHZZ	AL		C	FFC,Ink 1 cable	[CNHEAD1]
11	QCNWN335BXHZZ	AL		C	FFC,Ink 2 cable	[CNHEAD2]
12	VHPGP1A38RBKL	AZ		B	Photo transistor	[ENC1]
13	RH-IX2248XHZZ	BF		B	IC(IX2248)	[IC100]
14	VRS-CZ1JB390J	AA		C	Resistor(1/16W 39Ω ±5%)	[R100]
15	VRS-CZ1JB390J	AA		C	Resistor(1/16W 39Ω ±5%)	[R101]
16	VRS-CZ1JB392J	AD		C	Resistor(1/16W 3.9KΩ ±5%)	[R102]
17	VRS-CZ1JB000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R103]
18	VRS-CZ1JB392J	AD		C	Resistor(1/16W 3.9KΩ ±5%)	[R104]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[11] Ink PWB unit					
19	VRS-CZ1JB392J	AD		C	Resistor(1/16W 3.9KΩ ±5%) [R105]
20	VRS-CZ1JB181J	AA		C	Resistor(1/16W 180Ω ±5%) [R106]
21	VRS-CZ1JB512J	AD		C	Resistor(1/16W 5.1KΩ ±5%) [R107]
22	VRS-CZ1JB512J	AD		C	Resistor(1/16W 5.1KΩ ±5%) [R108]
23	PSHEP3680XHZZ	AD		C	C1 sheet [SHEET1]
	(Unit)				
901	DCEKH435CXH01	BM		E	Ink PWB unit with FPC

■ I n d e x

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
[C]				
CCHSM2076XH01	4-13	AY		E
CCNWN337BXH01	1-3	AL		C
CGERH2614XH01	3-1	AP		E
CPAKC364FXH01	5-1	AY	N	D
CPLTM3258XH01	1-4	BA		E
CROLP2499XH01	1-5	AM		E
CROLR2362XH03	1-6	AQ		E
CROLR2362XH04	3-2	AQ		E
CROLR2497XH01	4-1	AY		C
CROLR2498XH01	4-2	AX		C
[D]				
DCEKC887SXHZZ	1-1	CA	N	E
〃	6-901	CA	N	E
DCEKH435CXH01	4-3	BM		E
〃	11-901	BM		E
DCEKL434CXH01	1-7	BF		E
〃	7-901	BF		E
DCEKP438CXH11	2-901	BG	N	E
DCEKP439CXH03	2-1	BG	N	E
〃	10-901	BG	N	E
DCEKP440CXH01	4-4	BU		E
〃	8-901	BU		E
DUNTK497CXHMG	5-7	AY	N	E
[G]				
GCABA2418XHSD	1-8	BF	N	D
GCABB2419XHSD	1-2	BE	N	D
GCASP2167XHZZ	4-5	AF		C
GCASP2168XHSK	2-3	AY	N	D
GCOVA2458XHSC	1-9	AS	N	C
GCOVA2465XHZZ	4-6	AL		C
GCOVA2466XHZZ	4-7	AG		C
GCOVA2467XHSD	1-10	AQ	N	C
GCOVA2477XHSC	3-3	AG	N	C
GLEGG2078XHZZ	1-11	AD		C
[H]				
HPNLH2426XHZK	2-2	AL	N	D
[J]				
JBTN-2381XHSB	2-4	AM	N	C
JBTN-2382XHSD	2-5	AK	N	C
JBTN-2383XHSC	2-6	AG	N	C
JBTN-2384XHSA	2-7	AF		C
JBTN-2385XHSC	2-8	AF	N	C
JBTN-2386XHSC	2-9	AG	N	C
JBTN-2444XHSA	2-29	AQ	N	C
[L]				
LANGF2858XHZZ	4-8	AL		C
LBNDJ2006XHZZ	1-12	AA		C
〃	4-9	AA		C
LBSHP2138XHZZ	4-10	AD		C
LBSHP2140XHZA	1-13	AC		C
LBSHP2143XHZZ	1-14	AC		C
LBSHP2146XHZA	4-11	AE		C
LBSHP2150XHZZ	4-12	AE		C
LFRM-2240XHZA	1-15	AP		C
LFRM-2241XHZZ	4-14	AG		C
LFRM-2242XHZZ	4-15	AL		C
LHLDR2212XHZS	4-16	AF		C
LHLDZ2215XHZZ	4-17	AE		C
LHLDZ2220XHZZ	4-18	AD		C
LHLDZ2221XHZZ	4-19	AD		C
LHLDZ2222XHZZ	4-20	AD		C
LHLDZ2245XHZZ	4-21	AM		C
LHLDZ2246XHZZ	4-22	AE		C
LHLDZ2247XHZZ	4-23	AG		C
LHLDZ2248XHZZ	4-24	AG		C
LHLDZ2249XHZZ	4-25	AG		C
LHLDZ2253XHZZ	4-26	AF		C
LPLTG3268XHZZ	2-10	AE		C
LPLTM2924XHFW	1-16	AQ		C
LPLTM3253XHZZ	1-17	AS		C
LPLTM3255XHZZ	1-18	AP		C
LPLTM3256XHZZ	1-19	AR		C
LPLTM3259XHZZ	1-20	AF		C
LPLTP2884AXZA	1-21	AP		C
LPLTP2889XHVC	5-8	AR	N	C
LPLTP2890XHVC	5-9	AL	N	C
LPLTP3175XHZZ	2-11	AD		C
LPLTP3254XHZZ	1-22	AE		C
LPLTP3257XHZL	2-12	AE		C
LPLTP3257XHZR	2-13	AE		C
LPLTP3258XHZZ	1-23	AG		C
LPLTP3260XHSC	1-24	AP	N	C
LPLTP3261XHSC	1-25	AM	N	C
LPLTP3263XHSH	1-26	AM	N	C
LPLTP3264XHSC	5-10	AS	N	C
LPLTP3266XHZZ	4-28	AD		C
LX-BZ2205XHZZ	1-B1	AC		C
LX-BZ2222XHZZ	1-B2	AC		C
〃	3-B1	AC		C
LX-BZ2241XHZZ	1-B3	AC		C
LX-BZ2282XHZZ	1-B5	AB		C
[M]				
MARMP2033XHZZ	4-29	AE		C
MARMP2034XHZZ	2-14	AE		C
MLEVP2355XHZZ	4-30	AE		C
MLEVP2377XHZZ	4-31	AE		C
MLEVP2378XHZZ	4-32	AE		C
MLEVP2379XHZZ	1-27	AE		C
MLEVP2380XHZA	3-4	AE	N	C
MLEVP2381XHZZ	3-5	AE		C
MLEVP2382XHZZ	3-6	AE		C
MSPRC3270XHZZ	4-33	AD		C
MSPRC3301XHZZ	3-7	AB		C
MSPRC3360XHZZ	4-34	AE		C
MSPRC3361XHZZ	4-35	AE		C
MSPRC3362XHZZ	4-36	AD		C
MSPRC3380XHZZ	4-37	AE		C
MSPRC3385XHZZ	4-38	AD		C
MSPRC3386XHZZ	4-39	AD		C
MSPRC3387XHZZ	4-40	AD		C
MSPRC3390XHZZ	1-28	AD		C
MSPRC3391XHZZ	1-29	AE		C
MSPRC3394XHZZ	3-8	AD		C
MSPRC3406XHZZ	1-30	AD		C
MSPRC3407XHZZ	1-31	AE		C
MSPRC3408XHZZ	4-41	AD		C
MSPRC3414XHZZ	4-42	AE		C
MSPRC3415XHZZ	4-43	AE		C
MSPRD3272XHZA	4-44	AD		C
MSPRD3382XHZZ	4-45	AE		C
MSPRD3383XHZZ	4-46	AE		C
MSPRD3396XHZZ	3-9	AE		C
MSPRD3397XHZZ	3-10	AE		C
MSPRD3398XHZZ	2-16	AE		C
MSPRD3399XHZZ	2-17	AE		C
MSPRD3400XHZZ	2-18	AD		C
MSPRD3401XHZZ	2-15	AE		C
MSPRD3405XHZZ	2-19	AD		C
MSPRD3413XHZZ	4-47	AE		C
MSPRK3343XHZR	4-48	AE		C
MSPRK3381XHZL	4-49	AE		C
MSPRP3055XHFJ	1-32	AD		C
MSPRP3119XHZZ	1-33	AC		C
MSPRP3279XHZZ	4-50	AE		C
MSPRP3334XHZA	4-51	AF		C
MSPRP3384XHZZ	4-52	AG		C
MSPRP3388XHZZ	4-53	AE		C
MSPRP3392XHZZ	1-34	AK		C
MSPRT2932XHFJ	1-35	AC		C
[N]				
NBLTK2063XHZZ	4-54	AQ		C
NGERH2365AXZZ	1-36	AD		C
NGERH2366AXZZ	1-37	AD		C
NGERH2569XHZZ	1-38	AC		C
NGERH2570XHZZ	1-39	AD		C
NGERH2572XHZZ	1-40	AD		C
NGERH2580XHZZ	1-41	AC		C
NGERH2608XHZZ	4-55	AF		C
NGERH2609XHZZ	1-42	AE		C
〃	4-56	AE		C
NGERH2610XHZZ	4-57	AE		C
NGERH2611XHZZ	4-58	AE		C
NGERH2612XHZZ	1-43	AE		C
NGERP2318XHZZ	3-11	AD		C
NPLYD2095XHZZ	4-59	AE		C
NROLM2480XHZZ	4-60	AE		C
NROLP2332XHZZ	2-20	AD		C
NROLP2477XHZZ	4-61	AE		C
NROLR2482XHZZ	1-45	AR		C
NSFTM2343XHZZ	4-62	AD		C
NSFTZ2367XHZZ	1-46	AG		C
[P]				
PCAPH2090XHZZ	4-63	AE		C
PCOVA2115XHVD	5-11	AY	N	C
PCUSU2196XHZZ	2-28	AE		C
PFLT-2028XHZZ	4-64	AE		C
PGIDM2617XHZZ	1-47	AD		C
PGIDM2618XHZZ	1-48	AD		C
PGIDM2619XHVG	3-14	AG	N	C
PGIDM2620XHVG	3-15	AG	N	C
PGIDM2649XHSC	3-16	AV	N	C
PGIDM2650XHSF	2-21	AU	N	C
PGUMM2189XHZZ	4-65	AE		C
PGUMS2188XHZZ	4-66	AC		C
PHOP-2095XHVC	1-49	AU	N	C
PSEL-2015XHZZ	1-50	AB		C
PSHEM3769XHZZ	3-17	AK		D
PSHEP3657XHZA	4-67	AP		C
PSHEP3680XHZZ	11-23	AD		C
PSHEP3773XHZZ	2-23	AK		D
PSHEZ3293XHZZ	1-52	AH		C
PSHEZ3344XHZZ	1-53	AD		C
PSHEZ3410XHZZ	1-54	AB		C
PSHEZ3757XHZZ	2-24	AG		C
PSHEZ3759XHZZ	1-56	AP		C
PSHEZ3760XHZZ	1-57	AE		C
PSHEZ3761XHZZ	1-58	AE		C
PSHEZ3763XHZZ	3-18	AE		C
PWIR-2082XHZZ	5-13	AU		C
[Q]				
QACCD2072XHZZ	1-59	AP		B
QCNCM2401SC0B	6-128	AA		C
QCNCM2482SC2H	6-126	AG		C
〃	8-86	AG		C
QCNCM2548SC1B	7-34	AH		C
QCNCM7014SC0B	8-82	AD		C
QCNCM7014SC0C	6-125	AA		C
QCNCM7014SC0D	8-83	AB		C
QCNCM7014SC0F	6-123	AB		C
QCNCM7014SC0G	6-121	AB		C
QCNCM7014SC0H	6-127	AB		C
QCNCM7014SC1B	6-124	AD		C
QCNCW2500SC1B	6-122	AF		C
QCNCW2556SC1B	8-84	AG		C
〃	8-85	AG		C
QCNWG209BXHGY	5-15	AN		C
QCNWG370BXHZZ	5-14	AL		C
QCNWN333BXHZZ	1-60	AP		C
QCNWN334BXHZZ	2-25	AP		C
QCNWN335BXHZZ	11-10	AL		C
〃	11-11	AL		C
QCNWN347BXHZZ	1-61	AM		C
QCNWN354BXHZZ	1-62	AY		C
QFS-L1026YCZZ	6-135	AE		B
QFS-L1027YCZZ	8-96	AE		B
QFS-L2016XHZZ	6-136	AD		B
QJAKZ2060SC0B	7-35	AD		C
〃	7-36	AD		C
QJAKZ2079XH0D	7-33	AD		C
QSW-Q2331XHZZ	2-26	AE		C
[R]				
RC-EZ3074XHZZ	11-1	AG		C
RC-FZ3024SCZZ	7-4	AG		C
RCILF2175XHZZ	8-103	AL		C
RCILZ2179XHZZ	6-219	AE		C
RCORF2124XHZZ	1-64	AE		B
RCORF2125XHZZ	1-65	AE		B
RCRMA2009XHZZ	8-173	AG		B
RCRSB2185XHZZ	6-272	AD		B
RCRSP2190SCZZ	6-271	AE		B
RDENT2202XHZZ	1-66	BK		E
〃	9-901	BK		E
RFILN2027XHZZ	7-40	AC		C
RH-IX2168SCZZ	6-145	BB		B
RH-IX2248XHZZ	11-13	BF		B
RH-IX2270XHZZ	6-138	AL		B
RH-IX2287SCZZ	7-39	AG		B
RH-IX2288SCZZ	6-139	BE		B
RH-IX2289XHZZ	8-101	AZ		B

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
RH-IX2306SCZZ	6-143	BF		B
RH-IX2314XHZZ	8-97	BF		B
RH-IX2322XHZZ	8-98	AM		B
RH-IX2356XHZZ	6-137	AL		B
RH-IX2360XHZZ	6-268	AL		B
〃	6-269	AL		B
RH-IX2379XHZZ	6-141	AZ		B
RMOTS2181XHZZ	4-68	AY		B
RMOTS2182XHZZ	1-67	AY		B
RMOTZ2183XHZZ	4-69	BA		B
RR-DZ1115AFZZ	8-168	AC		B
RR-TZ3012SCJ0	8-166	AB		B
〃	8-169	AB		B
〃	8-170	AB		B
〃	8-171	AB		B
〃	8-172	AB		B
RR-TZ3016SCZZ	6-251	AA		B
〃	6-252	AA		B
〃	6-253	AA		B
〃	6-254	AA		B
〃	6-255	AA		B
〃	6-256	AA		B
〃	6-258	AA		B
〃	6-259	AA		B
〃	6-260	AA		B
〃	8-167	AA		B
RR-TZ3017SCZZ	6-264	AC		B
RR-TZ3018SCZZ	6-265	AC		B
RR-TZ3023SCZZ	6-257	AC		B
〃	6-261	AC		B
〃	6-262	AC		B
〃	6-263	AC		B
〃	6-266	AC		B
〃	6-267	AC		B
RRLYD3436XHZZ	7-32	AP		B
RTRNI2164XHZZ	7-83	AG		B
RUNTZ2080XH02	2-27	BA	N	E
RUNTZ2145XHZZ	1-68	BN	N	B
[S]				
SPAKA219EXHZZ	5-16	AK		D
SPAKA220EXHZZ	5-17	AK		D
SPAKA221EXHZZ	5-18	AL		D
SPAKA295EXHZZ	5-19	AF		D
SPAKA296EXHZZ	5-20	AE		D
SPAKP223EXHZZ	5-22	AG		D
SSAKA2008XHZZ	5-26	AA		D
SSAKA2340QCZZ	5-23	AA		D
SSAKA3001CCZZ	5-24	AA		D
[T]				
TCADH3657XHZZ	5-4	AQ	N	D
TCADZ2891XHZZ	5-5	AF		D
TINSE4404XHTZ	5-2	BD	N	D
TLABH445EXHZZ	5-28	AG		C
TLABH446EXHZZ	5-25	AE		D
TLABH491EXHZZ	1-69	AE		C
[U]				
UBATL2049SCZZ	6-1	AF		B
UINK-2034XHZZ	5-3	AE		S
[V]				
VCCCCY1HH100D	8-12	AA		C
〃	8-32	AA		C
〃	8-33	AA		C
〃	8-34	AA		C
VCCCCY1HH101J	6-66	AA		C
〃	6-89	AA		C
〃	8-8	AA		C
〃	8-9	AA		C
〃	8-76	AA		C
VCCCCY1HH150J	8-10	AB		C
〃	8-11	AB		C
VCCCCY1HH181J	11-2	AA		C
〃	11-3	AA		C
VCCCCY1HH220J	6-67	AA		C
〃	6-68	AA		C
VCCCCY1HH221J	6-24	AA		C
〃	6-25	AA		C
〃	6-26	AA		C
〃	6-27	AA		C
〃	6-28	AA		C
〃	6-29	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCCCCY1HH221J	6-30	AA		C
〃	6-93	AA		C
〃	6-100	AA		C
〃	6-102	AA		C
〃	6-103	AA		C
〃	6-113	AA		C
〃	6-114	AA		C
〃	6-115	AA		C
〃	6-116	AA		C
〃	6-120	AA		C
〃	7-17	AA		C
〃	7-19	AA		C
〃	7-21	AA		C
〃	8-13	AA		C
〃	8-18	AA		C
〃	8-19	AA		C
〃	8-20	AA		C
〃	8-21	AA		C
〃	8-47	AA		C
〃	8-65	AA		C
VCCCCY1HH3R0C	6-57	AA		C
VCCCCY1HH330J	7-22	AA		C
〃	7-30	AA		C
VCCCCY1HH331J	8-77	AB		C
〃	8-78	AB		C
〃	8-79	AB		C
〃	8-80	AB		C
〃	8-81	AB		C
VCCCCY1HH470J	6-52	AA		C
VCEAGA0JW227M	6-6	AD		C
〃	6-14	AD		C
〃	8-7	AD		C
VCEAGA1CW476M	7-7	AB		C
VCEAGA1EW227M	8-5	AB		C
VCEAGA1EW476M	6-3	AA		C
〃	6-4	AA		C
VCEAGA1HW106M	6-8	AA		C
〃	6-9	AA		C
〃	6-10	AA		C
〃	6-11	AA		C
VCEAGA1HW107M	7-8	AA		C
〃	8-1	AA		C
〃	8-3	AA		C
VCEAGA1HW226M	6-5	AB		C
〃	6-7	AB		C
〃	7-6	AB		C
〃	7-9	AB		C
〃	7-10	AB		C
〃	7-11	AB		C
〃	8-4	AB		C
VCEAGA1HW476M	8-2	AB		C
〃	8-6	AB		C
VCEAPSOJC157M	6-2	AF		C
VCKYCY1AB105K	6-46	AB		C
〃	6-58	AB		C
〃	6-59	AB		C
VCKYCY1AF105Z	6-45	AC		C
〃	6-62	AC		C
〃	6-69	AC		C
〃	6-70	AC		C
〃	6-75	AC		C
〃	6-76	AC		C
〃	6-77	AC		C
〃	6-78	AC		C
〃	6-80	AC		C
〃	6-81	AC		C
〃	6-82	AC		C
〃	6-83	AC		C
〃	6-91	AC		C
〃	6-92	AC		C
〃	7-23	AC		C
〃	8-17	AC		C
〃	8-64	AC		C
〃	8-70	AC		C
〃	8-71	AC		C
〃	8-72	AC		C
VCKYCY1CB104K	6-39	AB		C
〃	6-53	AB		C
〃	6-54	AB		C
〃	6-73	AB		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCKYCY1CB104K	7-28	AB		C
VCKYCY1HB102K	6-22	AA		C
〃	6-23	AA		C
〃	6-33	AA		C
〃	6-36	AA		C
〃	6-37	AA		C
〃	6-44	AA		C
〃	6-51	AA		C
〃	6-64	AA		C
〃	6-101	AA		C
〃	6-117	AA		C
〃	6-119	AA		C
〃	7-12	AA		C
〃	7-14	AA		C
〃	7-15	AA		C
〃	7-18	AA		C
〃	7-24	AA		C
〃	8-15	AA		C
〃	8-16	AA		C
〃	8-22	AA		C
〃	8-23	AA		C
〃	8-74	AA		C
〃	8-75	AA		C
VCKYCY1HB103K	6-41	AA		C
〃	8-14	AA		C
〃	8-63	AA		C
VCKYCY1HB222K	6-86	AA		C
〃	6-87	AA		C
〃	6-97	AA		C
〃	6-98	AA		C
〃	6-99	AA		C
〃	7-16	AA		C
〃	7-25	AA		C
〃	8-60	AA		C
〃	8-61	AA		C
〃	8-62	AA		C
VCKYCY1HB272K	8-58	AB		C
VCKYCY1HB332K	8-26	AA		C
VCKYCY1HB471K	6-13	AB		C
VCKYCY1HB472K	6-40	AA		C
VCKYCY1HB821K	7-31	AA		C
VCKYCY1HF104Z	6-12	AA		C
〃	6-15	AA		C
〃	6-16	AA		C
〃	6-17	AA		C
〃	6-18	AA		C
〃	6-19	AA		C
〃	6-20	AA		C
〃	6-21	AA		C
〃	6-31	AA		C
〃	6-32	AA		C
〃	6-34	AA		C
〃	6-35	AA		C
〃	6-38	AA		C
〃	6-42	AA		C
〃	6-43	AA		C
〃	6-47	AA		C
〃	6-48	AA		C
〃	6-49	AA		C
〃	6-50	AA		C
〃	6-55	AA		C
〃	6-56	AA		C
〃	6-63	AA		C
〃	6-65	AA		C
〃	6-71	AA		C
〃	6-72	AA		C
〃	6-74	AA		C
〃	6-79	AA		C
〃	6-84	AA		C
〃	6-85	AA		C
〃	6-88	AA		C
〃	6-90	AA		C
〃	6-94	AA		C
〃	6-95	AA		C
〃	6-96	AA		C
〃	6-104	AA		C
〃	6-105	AA		C
〃	6-106	AA		C
〃	6-107	AA		C
〃	6-108	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCKYCY1HF104Z	6-109	AA		C
〃	6-110	AA		C
〃	6-111	AA		C
〃	6-112	AA		C
〃	6-118	AA		C
〃	8-24	AA		C
〃	8-25	AA		C
〃	8-27	AA		C
〃	8-28	AA		C
〃	8-29	AA		C
〃	8-30	AA		C
〃	8-31	AA		C
〃	8-35	AA		C
〃	8-36	AA		C
〃	8-37	AA		C
〃	8-38	AA		C
〃	8-39	AA		C
〃	8-40	AA		C
〃	8-41	AA		C
〃	8-42	AA		C
〃	8-43	AA		C
〃	8-44	AA		C
〃	8-45	AA		C
〃	8-46	AA		C
〃	8-48	AA		C
〃	8-49	AA		C
〃	8-50	AA		C
〃	8-51	AA		C
〃	8-52	AA		C
〃	8-53	AA		C
〃	8-54	AA		C
〃	8-55	AA		C
〃	8-56	AA		C
〃	8-57	AA		C
〃	8-59	AA		C
〃	8-66	AA		C
〃	8-67	AA		C
〃	8-68	AA		C
〃	8-69	AA		C
〃	8-73	AA		C
〃	11-4	AA		C
〃	11-5	AA		C
〃	11-6	AA		C
〃	11-7	AA		C
〃	11-8	AA		C
〃	11-9	AA		C
VCKYPA1HB103K	7-5	AA		C
VCKYTV1CF105Z	7-26	AB		C
〃	7-29	AB		C
VCKYTV1HF104Z	7-20	AA		C
VHDDSS133//-1	7-37	AA		B
〃	7-38	AA		B
VHDHRW0202B-1	6-134	AD		B
VHDSS14////-1	8-89	AF		B
〃	8-90	AF		B
〃	8-91	AF		B
〃	8-92	AF		B
〃	8-93	AF		B
〃	8-94	AF		B
VHDSS16////-1	8-88	AF		B
VHDU1GC44//-1	8-87	AC		B
VHD1SS355//-1	6-129	AB		B
〃	6-130	AB		B
〃	6-131	AB		B
〃	6-132	AB		B
〃	6-133	AB		B
〃	7-13	AB		B
〃	8-95	AB		B
VHEHZ2A1///-1	7-85	AC		B
〃	7-86	AC		B
VHEHZ2C1///-1	7-87	AA		B
〃	7-88	AA		B
VHEHZ27-1//-1	7-84	AB		B
VHEHZ6A3///-1	7-89	AC		B
VHEHZ9C3///-1	7-90	AE		B
VHE1N4744A/-1	6-273	AE		B
VHIF001/TA71F	8-102	BA		B
VHIF004/TC02C	6-140	BC	N	B
VHINJM2113M-1	6-142	AG		B
VHINJM78M24DL	6-270	AM		B

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VHIPC901054-1	8-99	AY		B
VHIPQ1X251M-1	8-100	AL		B
VHISCE214V/-1	6-144	AF		B
VHPGP1A38RBKL	11-12	AZ		B
VHPGP1S094HCZ	8-110	AG		B
VHPGP1S58V/-1	6-152	AE		B
〃	6-153	AE		B
〃	6-154	AE		B
〃	7-43	AE		B
VHPPC814X//-1	7-41	AE		B
VHPPC817X4/-1	7-42	AC		B
VHVRA391PV6-1	7-1	AE		B
VHVRA501PC6-1	7-2	AG		B
〃	7-3	AG		B
VRD-HT2EY101J	7-55	AA		C
VRD-HT2EY151J	7-56	AA		C
VRD-HT2EY300J	7-50	AA		C
VRD-HT2EY910J	7-52	AA		C
VRD-HT2HY202J	7-54	AA		C
VRD-HT2HY223J	7-49	AA		C
VRS-CY1JB000J	6-60	AA		C
〃	6-61	AA		C
〃	6-146	AA		C
〃	6-147	AA		C
〃	6-148	AA		C
〃	6-149	AA		C
〃	6-180	AA		C
〃	6-195	AA		C
〃	6-215	AA		C
〃	6-216	AA		C
〃	6-217	AA		C
〃	6-218	AA		C
〃	6-220	AA		C
〃	6-225	AA		C
〃	6-236	AA		C
〃	6-237	AA		C
〃	6-238	AA		C
〃	6-245	AA		C
〃	6-246	AA		C
〃	6-247	AA		C
〃	6-248	AA		C
〃	6-249	AA		C
〃	7-27	AA		C
〃	7-60	AA		C
〃	7-72	AA		C
〃	7-78	AA		C
〃	8-125	AA		C
〃	8-130	AA		C
〃	8-132	AA		C
〃	8-133	AA		C
〃	8-134	AA		C
〃	8-143	AA		C
〃	8-149	AA		C
〃	8-150	AA		C
〃	8-151	AA		C
〃	8-152	AA		C
〃	8-160	AA		C
〃	8-163	AA		C
VRS-CY1JB101J	6-231	AA		C
〃	6-232	AA		C
〃	6-233	AA		C
〃	7-62	AA		C
〃	8-120	AA		C
〃	8-122	AA		C
〃	8-131	AA		C
VRS-CY1JB102J	6-186	AA		C
〃	6-190	AA		C
〃	6-202	AA		C
〃	6-203	AA		C
〃	6-205	AA		C
〃	6-206	AA		C
〃	6-239	AA		C
〃	7-66	AA		C
〃	7-68	AA		C
〃	7-70	AA		C
〃	8-140	AA		C
〃	8-154	AA		C
〃	8-165	AA		C
VRS-CY1JB103J	6-164	AA		C
〃	6-187	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-CY1JB103J	6-188	AA		C
〃	6-189	AA		C
〃	6-191	AA		C
〃	6-240	AA		C
〃	6-243	AA		C
〃	6-244	AA		C
〃	8-141	AA		C
〃	8-142	AA		C
〃	8-144	AA		C
〃	8-153	AA		C
〃	8-155	AA		C
〃	8-156	AA		C
〃	8-157	AA		C
〃	8-158	AA		C
〃	8-159	AA		C
VRS-CY1JB104J	6-162	AA		C
〃	6-163	AA		C
VRS-CY1JB105J	6-194	AA		C
〃	6-209	AA		C
〃	8-124	AA		C
VRS-CY1JB106J	6-230	AA		C
VRS-CY1JB121J	8-136	AA		C
〃	8-147	AA		C
VRS-CY1JB124J	6-176	AA		C
VRS-CY1JB133J	6-183	AA		C
〃	7-59	AA		C
VRS-CY1JB150J	6-150	AA		C
VRS-CY1JB151J	6-211	AA		C
〃	6-214	AA		C
〃	6-222	AA		C
〃	6-224	AA		C
VRS-CY1JB152J	7-67	AA		C
VRS-CY1JB153J	6-182	AA		C
〃	7-79	AA		C
VRS-CY1JB155J	6-179	AB		C
VRS-CY1JB163J	7-71	AA		C
VRS-CY1JB202F	8-129	AC		C
VRS-CY1JB203J	6-184	AA		C
VRS-CY1JB204J	6-175	AA		C
VRS-CY1JB222J	6-234	AA		C
VRS-CY1JB223J	7-81	AA		C
VRS-CY1JB224J	6-185	AA		C
〃	6-235	AA		C
〃	7-58	AA		C
VRS-CY1JB243J	6-174	AA		C
〃	7-77	AA		C
VRS-CY1JB271J	6-167	AA		C
〃	6-171	AA		C
〃	6-199	AA		C
〃	6-200	AA		C
〃	6-204	AA		C
〃	6-221	AA		C
〃	6-223	AA		C
〃	6-226	AA		C
〃	6-227	AA		C
〃	6-228	AA		C
VRS-CY1JB301J	6-160	AA		C
〃	8-104	AA		C
〃	8-105	AA		C
〃	8-106	AA		C
〃	8-107	AA		C
〃	8-108	AA		C
〃	8-109	AA		C
〃	8-115	AA		C
〃	8-116	AA		C
〃	8-117	AA		C
〃	8-118	AA		C
〃	8-123	AA		C
〃	8-137	AA		C
〃	8-138	AA		C
〃	8-139	AA		C
〃	8-161	AA		C
VRS-CY1JB302J	6-181	AA		C
VRS-CY1JB330J	6-196	AA		C
〃	6-197	AA		C
〃	6-198	AA		C
〃	8-162	AA		C
VRS-CY1JB332J	7-64	AA		C
〃	7-65	AA		C
〃	7-80	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRS-CY1JB362F	8-121	AC		C
VRS-CY1JB362J	7-73	AA		C
VRS-CY1JB392J	6-192	AA		C
VRS-CY1JB393J	6-210	AA		C
〃	7-82	AA		C
VRS-CY1JB431J	6-165	AC		C
〃	6-166	AC		C
〃	6-172	AC		C
〃	6-173	AC		C
〃	6-207	AC		C
〃	6-208	AC		C
VRS-CY1JB471J	6-201	AA		C
〃	8-146	AA		C
VRS-CY1JB472J	8-126	AA		C
〃	8-145	AA		C
VRS-CY1JB473J	8-135	AA		C
〃	8-148	AA		C
VRS-CY1JB474J	6-178	AA		C
VRS-CY1JB5R1J	6-168	AC		C
VRS-CY1JB512J	6-169	AA		C
〃	8-119	AA		C
〃	8-164	AA		C
VRS-CY1JB513J	6-170	AA		C
〃	6-177	AA		C
VRS-CY1JB560J	6-242	AA		C
VRS-CY1JB562J	6-241	AA		C
VRS-CY1JB621J	7-74	AA		C
VRS-CY1JB680J	6-212	AA		C
〃	6-213	AA		C
〃	6-229	AA		C
VRS-CY1JB752J	6-193	AA		C
VRS-CY1JB822J	7-61	AA		C
〃	7-63	AA		C
〃	7-76	AA		C
VRS-CY1JB823J	7-69	AD		C
VRS-CZ1JB000J	11-17	AA		C
VRS-CZ1JB181J	11-20	AA		C
VRS-CZ1JB390J	11-14	AA		C
〃	11-15	AA		C
VRS-CZ1JB392J	11-16	AD		C
〃	11-18	AD		C
〃	11-19	AD		C
VRS-CZ1JB512J	11-21	AD		C
〃	11-22	AD		C
VRS-HT3AAR91J	8-113	AB		C
〃	8-114	AB		C
VRS-HT3DA221J	6-159	AB		C
VRS-RE2HA101J	7-53	AB		C
VRS-RE3AA122J	7-51	AC		C
VRS-RE3DA110J	6-161	AE		C
VRS-TS2AD000J	6-250	AA		C
VRS-TS2AD223J	7-57	AA		C
VRS-TS2AD3R0J	6-151	AA		C
VRS-TS2AD332J	7-75	AA		C
VRSCY1JB1000F	8-128	AA		C
VRSCY1JB7871F	8-127	AA		C
VSKTC3198GR-1	7-44	AD		B
VSRT1N141C/-1	6-156	AB		B
〃	6-157	AB		B
〃	6-158	AB		B
VSRT1N436C/-1	7-45	AD		B
〃	7-46	AD		B
〃	7-47	AD		B
VSRT1P141C+-1	7-48	AB		B
VS2SA1530AS-1	6-155	AC		B
VS2SC3052F/-1	8-111	AD		B
〃	8-112	AD		B
[X]				
XBBSF30P06000	1-B6	AA		C
XBPSD26P04J00	4-B1	AB		C
XEBSD20P06000	2-B1	AA		C
XEBSD30P06000	1-B7	AA		C
XEBSD30P10000	1-B8	AA		C
〃	2-B2	AA		C
XEBSE30P12000	1-B9	AA		C
XEPSD26P06000	4-B2	AA		C
XHBSD30P06000	1-B10	AA		C
〃	4-B3	AA		C
XHBSE30P10000	4-B4	AA		C
XHPSD30P08K00	1-B11	AA		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
XWHSN40-08100	1-W1	AA		C
[0]				
0KYC1102CC333	9-9	AC		C
0KYC1102EC472	9-8	AC		C
0KYC3126KS121	9-4	AS	N	C
0KYD20Q1AQ001	9-26	AM	N	B
0KYD2049BQ202	9-25	AQ		B
0KYD7062AQ241	9-67	AH		C
0KYH7148AS001	9-37	AM		B
0KYK7124AS2R5	9-28	AL		B
0KYL2100DS007	9-65	AY		B
0KYR3111VC101	9-46	AB		C
〃	9-60	AB		C
0KYR3111VC122	9-50	AC		C
0KYR3111VC273	9-49	AB		C
0KYR3111VC333	9-45	AB		C
0KYR3111VC681	9-51	AB		C
0KYR3111VC682	9-47	AB		C
0KYR3111VC821	9-62	AB		C
0KYR3114VC562	9-64	AC	N	C
0KYR3120TC133	9-48	AB		C
0KYR3120TC153	9-43	AB		C
0KYR3120TC184	9-41	AB		C
〃	9-42	AB		C
0KYR3120TC622	9-63	AC	N	C
0KYR3121TC271	9-52	AC	N	C
0KYR3121TC272	9-61	AB		C
0KYR3121TC751	9-44	AC	N	C
0KYR3131AC225	9-40	AC		C
〃	9-53	AC		C
0KYR3131AC562	9-59	AC		C
0KYR3131AC822	9-54	AC		C
〃	9-57	AC		C
〃	9-58	AC		C
0KYT2662KL001	9-38	AU	N	B
0KY0C1A9R2210	9-7	AG		C
0KY0C1Q1E1010	9-10	AD		C
0KY0C1Q2B1040	9-13	AD		C
0KY0C176Q4720	9-5	AL		C
〃	9-6	AL		C
0KY0C245Q1040	9-3	AM		C
0KY0C3A0B3310	9-12	AL		C
0KY0C3A0E1510	9-11	AL		C
0KY0D157A0060	9-21	AG		B
〃	9-22	AG		B
〃	9-23	AG		B
〃	9-24	AG		B
0KY0D251A0020	9-16	AD		B
〃	9-17	AD		B
〃	9-19	AD		B
0KY0D461A3800	9-27	AK		B
0KY0D466A1050	9-20	AE		B
0KY0D492A0050	9-18	AG		B
0KY0H153A0020	9-31	AP		B
0KY0K202B0080	9-14	AE		C
0KY0K207B0020	9-15	AK		C
0KY0L110K2230	9-36	AS		C
0KY0L551A0010	9-1	AE		C
0KY0R153U5620	9-55	AC		C
〃	9-56	AC		C
0KY0R854E1020	9-66	AG		C
0KY0T395A0020	9-39	AG		B
0KY0W000A0050	9-2	AC		C
〃	9-30	AC		C
〃	9-33	AC		C
0KY0W000A0070	9-35	AC		B
0KY0W000A0120	9-29	AC		C
0KY0W000A0150	9-32	AC		C
〃	9-34	AC		C

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK

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